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Population Bulletin

Black America in the 1980s

By John Reid

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Abstract—This *Bulletin* reviews recent demographic and socioeconomic trends in the U.S. black population in order to assess changes in the status of blacks relative to whites since publication of the 1962 edition of Gunnar Myrdal's 1944 classic, *An American Dilemma*. Blacks numbered 26.5 million in 1980, 11.7 percent of the total population, with 85 percent residing in urban areas compared to 71 percent of whites. Some suburbanization is now occurring among blacks but the majority remain segregated in central cities. In the 1970s, more blacks moved into the South than moved out in a reversal of the historic pattern. Blacks have shared the baby bust since the mid-1960s but teenage and out-of-wedlock fertility remain much higher than for whites as well as overall fertility (2.3 compared to 1.8 births per woman in 1979). Black infant mortality is still double that of whites and life expectancy is six years shorter (68.3 versus 74.4 years in 1979). Single parents (mostly mothers) with children now comprise 31 percent of black families compared to 10 percent for the general population. Divorce and separation have risen faster for blacks than whites. Many of these gaps are related to blacks' continuing socioeconomic disadvantages: median family income is 56 percent that of whites; the poverty rate is 3.5 times higher; unemployment is twice as high. Occupational status has improved for blacks and their educational attainment is now close to that of whites, but these gains may be slowed and income differentials unimproved if the current administration's reversal of socioeconomic policy remains unchanged. Blacks are also affected more than other groups by the recent surge in immigrants who compete directly for the low-level jobs on which many blacks must still rely.

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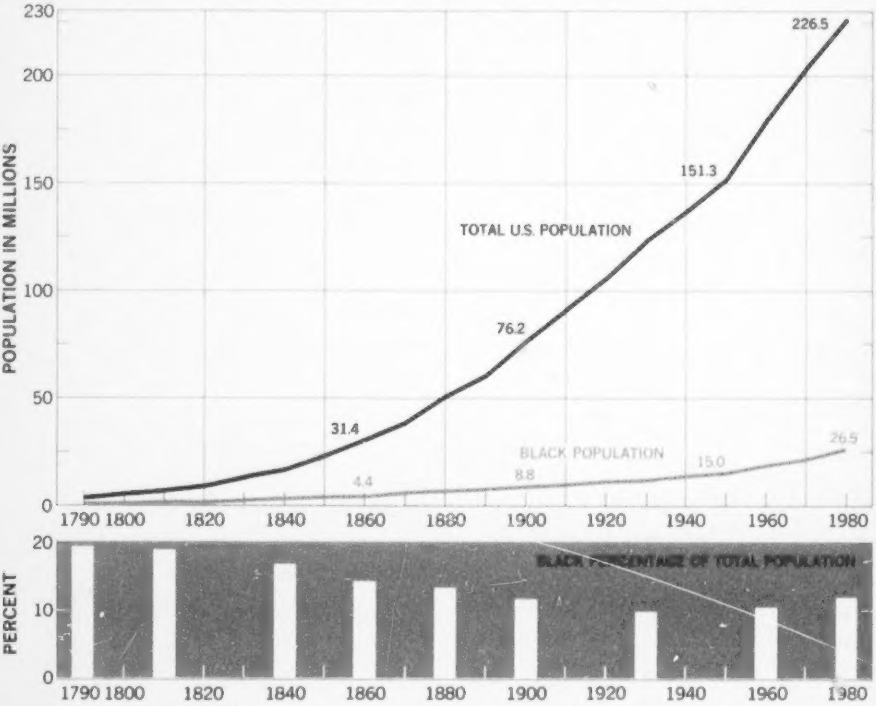
Figure 1. Growth of Black and Total U. S. Population: 1790-1980



Sources: Bureau of the Census, "The Social and Economic Status of the Black Population in the United States: An Historical Review, 1790-1978," "*Current Population Reports*, Series P-23, No. 80, 1979, Table 1; *Historical Statistics of the United States: Colonial Times to 1970*, Part 1, 1975, Series A 6-8; and 1980 Census data.

Arthur Haupt

Black America in the 1980s

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Dr. Reid is grateful to Leon Bouvier of the Population Reference Bureau for special help in the preparation of this Population Bulletin, *and to Ron Manuel of Howard University for comments on the original manuscript.*

> "Mankind is sick of fear and disbelief, of pessimism and cynicism. It needs the youthful, moralistic optimism of America. But empty declarations only deepen cynicism. Deeds are called for. If America in actual practice could show the world a progressive trend by which the Negro became finally integrated into modern democracy, all mankind would be given faith again—it would have reason to believe that peace, progress and order are feasible and America would have a spiritual power many times stronger than all her financial and military resources—the power of the trust and support of all good people on earth. *America is free to choose whether the Negro should remain her liability or become her opportunity.*"[1]

So wrote Gunnar Myrdal in his monumental study of black Americans, *An American Dilemma,* first published in 1944 and updated as well as abridged in 1962. Much transpired in the 18-year interim between publications. The landmark 1954 Supreme Court decision forever banning racial discrimination, at least legally, ranks at the top of the list. Antedating it, however, was the Truman Executive Order of 1950, desegregating the Armed Forces during the Korean War. These two governmental decisions helped raise the consciousness of all Americans on the "Negro problem," and by 1962, school desegregation and the civil rights revolution were under way. But the black American was still barely accepted in the mainstream society and the question remained: "Is the Negro to be a liability or an opportunity for America?" Also unresolved was the dilemma exhaustively explored in Myrdal's book—the fact that the American Creed of "liberity, equality, justice, and fair opportunity for everybody" to which all Americans adhere "on the general plane" had in practice been extended least of all to American blacks.

It is now 1982 and again it can be said that much has transpired over the past two decades. The civil rights legislation passed in the 1960s under the Johnson administration set the stage for advances in all aspects of societal living for black Americans. Affirmative action programs following upon this legislation have enabled many black Americans to move up the socioeconomic ladder, compensating in part for 300 years of discrimination.

But the picture is far from being as rosy as it might be. Twenty years of effort are far from enough to make up for 300 years of subjugation. Yet there are those in American society who feel that too much has already been done for black Americans, particularly when it affects the white majority negatively. There are those who feel that U.S. concerns should now be directed more toward other disadvantaged minorities, although blacks, ironically, have been residents of this nation for longer than most other ethnic groups. Finally, the economic policies of the current administration have had a strong negative impact on the status of black Americans, particularly that large proportion in poverty or at the brink of poverty. Clearly, the black American is at still another crossroads on a very difficult path from complete slavery, to serfdom, to token acceptance by the majority, to complete partnership in the system that is called the United States. In 1982, the question can once again be asked: "Is the Negro still a liability or an opportunity for America?"

This *Bulletin* does not pretend to update *An American Dilemma.* Rather it concentrates on the demographic and socioeconomic dimensions of the changes that have occurred to black Americans, particularly in the past two decades, to help evaluate what progress may have occurred and perhaps to offer answers to that above question. Such an approach is not new. Writing in 1965 on "Demographic Factors in the Integration of the Negro," demographer Philip Hauser commented that "the size, rate of growth, distribution, and composition of the Negro population will influence integration and provide some indicators of the extent to which it has been achieved."[2] Following these guidelines, this *Bulletin* demonstrates how demographic and socioeconomic statistics can tell us a great deal about the status of the black American today.

Population Growth and Composition

Blacks have been present in what is now the United States since as early as 1619 when the first slave-bearing ships landed in Virginia. In 1650 the American colonies included 48,768 whites and about 1,600 blacks.[3] By 1790 in the first census taken by the new Republic some 3.9 million persons were enumerated, of whom 750,000, or 19.3 percent, were black. Both the total U.S. population and the black population have grown dramatically since that date (see Figure 1, page 2). The black population reached 4.4 million just prior to the Civil War and doubled to 8.8 million by 1900. It passed the 15 million mark in 1950 and in the most recent 1980 census, 26,488,218 blacks were counted, representing 11.7 percent of the total U.S. population of 226.5 million.

The 11.7 percent black proportion of the total population in 1980 is the highest it has been since the late 19th century. Blacks were about one-fifth of the national total from 1790 to 1810. The proportion then declined gradually to 11.6 percent in 1900 and 9.7 percent in 1930. Since then the proportion has again increased slowly. Reasons for the decline and then increase in proportion are straightforward. Early in the 19th century most slave movements came to an end—legally in 1808. Any further growth in the black population had to come from natural increase: that is, births minus deaths. Although fertility was quite high, so too was mortality. On the other hand, white immigration after 1820 was large and grew even larger toward the end of the century and into the first two decades of the 20th century. White fertility was also quite high, but mortality was lower than among blacks. After 1920 white immigration levels were drastically reduced until very recently, and natural increase among blacks has been significantly greater than among whites.

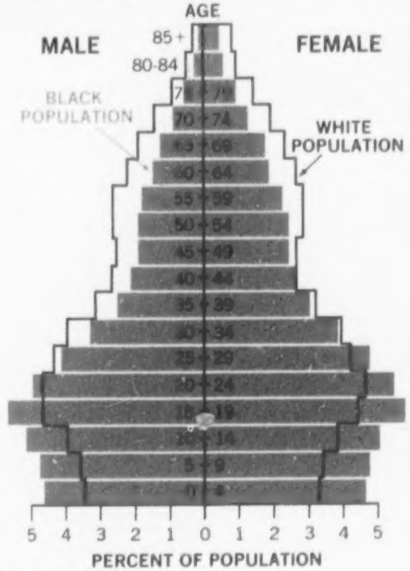
Age differences

The black population has always been "younger" than its white counterpart. In 1840 the median ages were 17.3 for blacks and 17.9 for whites. (The median marks the point at which half the population is younger and half is older.) The difference increased over the next century in part because of higher fertility among blacks. By 1950 the median age was 26.1 for blacks and 30.8 for whites. The difference grew larger by 1960: 23.5 to 30.3. In 1980 blacks averaged 24.9, whites, 31.3.

Because of its younger age, the black population will grow somewhat faster than the white population even if fertility, mortality, and migration are the same for both groups. As Ernest Attah has noted: "Given its younger initial age structure, the nonwhite population has a greater momentum toward growth than does the white population. As a result, the peak size of the nonwhite population is proportionally greater, compared to its initial size, than is that of the corresponding white population."[4]

A more important impact of age differential can be seen in the dependency ratio: the number of persons of dependent age (0-14 and 65 and over) per 100 persons of "active" age (15-64). In 1910 the dependency ratio for both groups was very similar—about 105. That is, for every 100 persons of working age there were about 105 persons either under 15 or over 64. By 1960 the dependency ratio for blacks was up to 107 and by 1980 it had fallen to 91.7. For whites the dependency ratio was 67 in 1960 and 73.9 in 1980. Clearly, the burden of dependency is far greater for blacks than for whites and as Hauser noted, "this has important implications for integration."[5]

Figure 2. Age-Sex Composition of Black and White Populations: 1980



Source: Bureau of the Census.

In sum, the black population in the United States increased from 750,000 in 1790 to 26.5 million in 1980. Over this period, the black proportion of the national population first fell significantly and in recent years has once again increased somewhat. Blacks as a whole have always been and remain today a relatively "young" population, with a current median age of about 25 years. Figure 2 shows the age-sex distribution of the black population in 1980 superimposed on the white population by proportions. Age differences are obvious: 12.1 percent of whites are 65 and over compared to only 7.9 percent for blacks; 21.3 percent of whites are under 15 while 28.7 percent of blacks fall in that category.

Interestingly, both groups show the tremendous influence of the baby boom, especially the years 1955 to 1964 when fertility levels were particularly high. For both groups, the cohorts aged 15-24 in 1980 are the largest, considerably larger than the groups under age ten, born during the baby bust of the 1970s. This phenomenon will be discussed in further detail later in this *Bulletin*.[*]

Where Blacks Live

Until 1910, at least 90 percent of all blacks lived in the South. After World War I, however, blacks began moving out of the South in large numbers as the South's agricultural economy experienced difficulties and blacks continued to be excluded from the political and economic mainstream, and as jobs for semiskilled and unskilled laborers opened up in the growing industrial centers of the North with the decline in immigrants from Europe.[6] By 1940 the proportion of blacks living in the South was down to 77 percent, despite a sharp slowdown in outmigration from the region during the Depression of the 1930s. By 1950 the proportion had dropped to 68 percent, reflecting southern blacks' response to the World War II demand for labor in the industrial North and far West. Blacks continued to leave the South in large numbers during the 1950s and 1960s; by 1970 only 53 percent of all blacks lived in that region. In 1980, however, the proportion was the same because during the 1970s, as we shall see, more blacks moved into the South than moved out, in a dramatic reversal of the historic pattern.

Rural to urban areas

The movement of blacks out of the South meant not only a physical move from one part of the nation to another but also a change from a rural to an urban way of life. As recently as 1910, 73 percent of all blacks lived in rural areas (see Table 1). Within 50 years, less than a lifetime, 73 percent were living in *urban* areas. Indeed, in 1960 blacks were more likely to live in urban areas than whites—73 percent compared to 70 percent. By 1980, 85 percent of blacks lived in urban areas compared to 71 percent of whites.

Table 1. Black and White Population in Urban and Rural Areas: 1890-1980

(Numbers in percent)

	Black		White	
Year	Urban	Rural	Urban	Rural
1890	20	80	38	62
1910	27	73	49	51
1940	49	51	57	43
1950	62	38	64	36
1960	73	27	70	30
1970	81	19	72	28
1980	85	15	71	29

Sources: Bureau of the Census, "The Social and Economic Status of the Black Population in the United States: An Historical View, 1790-1978," Special Studies, Series P-23, No. 80, 1979, Table 6; and unpublished 1980 Census data.

The move from rural to urban residence also means that the number of black farmers has fallen. At their peak in 1920, Negro farm operators numbered 926,000 and comprised one-seventh of all farmers, even though many of them exercised little or no managerial function and were essentially laborers paid with shares of the crop. As a result of all the influences that have combined to lower the number of farms, only 273,000 black farmers were counted in the 1959 Census of Agriculture. By the time of the 1978 Census of Agriculture, black farmers were down to 57,271—2.3 percent of all farmers—compared to 2.4 million white farmers, or 96.8 percent of the total.

Blacks have not only moved to urban regions but within those regions they have flowed to larger metropolitan areas and particularly to the central cities in those areas. In 1910 just over one-quarter of blacks lived in what are now called Standard Metropolitan Statistical Areas, or SMSAs. (An SMSA is composed of a city of 50,000 or more population, together with the county where it is located and surrounding counties that are socially and economically integrated with that county.) By 1960 the proportion more than doubled to 65 percent. Twenty years later in 1980, 81 percent of all blacks enumerated in the census resided in metropolitan areas, substantially more than the 73 percent of whites. The 1980 census also found that 34 percent of all blacks lived in just seven of the largest urban centers: New York, Chicago, Detroit, Philadelphia, Washington, Los Angeles, and Baltimore.

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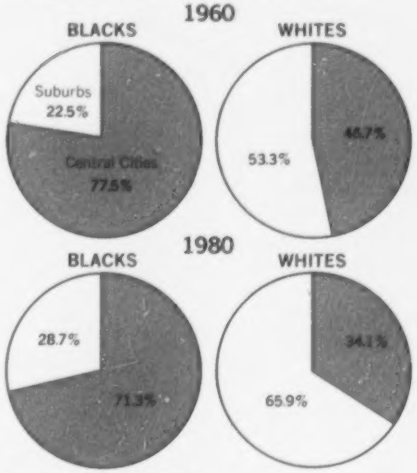
[*] To avoid confusion, this *Bulletin* generally refers to "blacks," although in some cases it is necessary to use data for "blacks and all others" or "nonwhites." Since over 90 percent of this category consists of blacks, this does not significantly affect the results.

Blacks living in metropolitan areas have tended to be concentrated in central cities. While whites began to move to the suburbs soon after the end of World War II, blacks remained in the central city—not always voluntarily. By 1960 more than half of all whites in SMSAs lived in the suburbs or "ring" portions of such regions; in contrast, 78 percent of SMSA blacks lived in central cities (see Figure 3). In 1980 two-thirds of all whites residing in SMSAs were in the suburbs while the proportion among blacks was 29 percent.

Figure 3. Metropolitan Population Living Inside and Outside Central Cities, Blacks and Whites: 1960 and 1980



Source: Bureau of the Census

The increase in the black metropolitan population living in suburbs from 23 percent in 1960 to 29 percent in 1980 reflects the much-touted "suburbanization" of blacks during the 1970s.[7] Indeed, the number of blacks living in metropolitan suburbs increased from 4.3 million in 1970 to 6.2 million in 1980. Nevertheless, blacks comprised only 6.1 percent of the country's suburban population in

Table 2. Central Cities of 100,000 and More Population with Black Majorities: 1960 and 1980

1960			1980		
City	Number of blacks	% black of total population	City	Number of blacks	% black of total population
Washington, DC	411,737	53.9	Gary, IN	107,644	70.8
			Washington, DC	448,229	70.3
			Atlanta, GA	282,917	66.6
			Detroit, MI	758,939	63.1
			Newark, NJ	191,743	58.2
			Birmingham, AL	158,223	55.6
			New Orleans, LA	308,136	55.3
			Baltimore, MD	431,151	54.8
			Richmond, VA	112,357	51.3

Sources: Bureau of Census, *1970 Census of Population, Supplementary Report, Negro Population in Selected Places and Selected Counties*, Series PC(51)-2, 1971; and unpublished 1980 Census data.

Harold M. Lambert

Blacks began moving to the suburbs during the 1970s, but most are still segregated in central cities.

1980—even less than the 8.9 percent living in city "suburbs" in 1900. Suburbs remain overwhelmingly white and central cities are increasingly black. In 1960 Washington, D.C., was the only metropolitan central city of at least 100,000 population where blacks counted for more than 50 percent of the population. By 1980 there were nine such cities (see Table 2, page 7).

Blacks since 1900 and even since 1940 have drastically redistributed themselves within the United States. First came the move in the South from rural to urban places, followed by migration to the North Central and Northeast regions and eventually the West, and then, in the 1970s, a reversal in the flow from the South. The southern black farmer has become a very small minority within the population. The black influx into urban areas has been concentrated in metropolitan areas and particularly in central cities. Some suburbanization of blacks is now taking place, and those who remain in the central cities are increasingly disadvantaged. In 1970, for example, a black family living in the central city was only 4 percent more likely to be in poverty than a black family in the suburbs; by 1980 the difference was 33 percent.[8] Central-city households headed by black women with no spouse present increased from 945,000 in 1970 to 1.6 million in 1980, and nearly 50 percent of these households had incomes below the poverty level in 1980.

Black suburbanization has also not meant much easing of residential segregation. Already in 1965, Hauser concluded: " . . . within the urban and metropolitan complexes the Negro American has become and has remained much more highly segregated than was true of white immigrants who flocked to the cities before them."[9] Writing in 1982 of the increased rate of black suburbanization, a team of researchers at the Joint Center for Political Studies in Washington, D.C., stated: "Our findings suggest that (this) is more an indication of 'spillover', or the extension of segregated city neighborhoods into deteriorating inner suburbs, than of black upward mobility into racially integrated suburbs."[10]

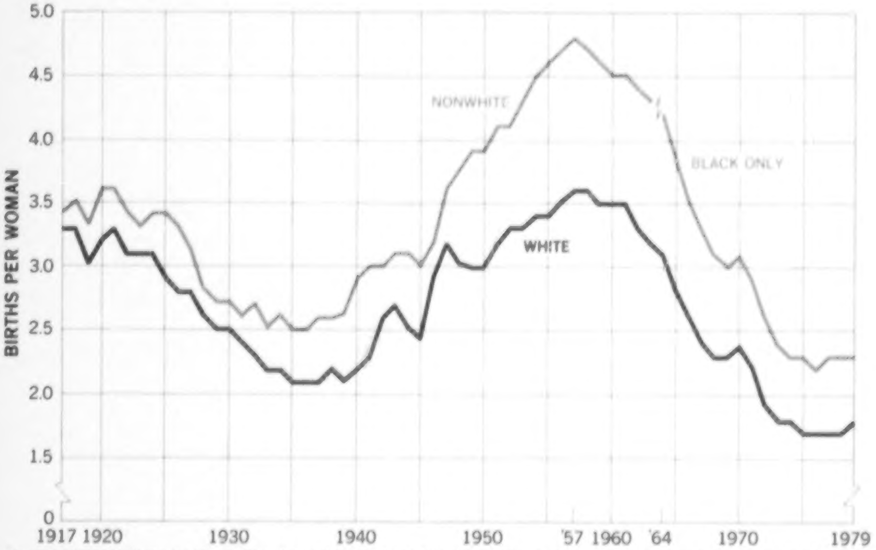
Thus, while progress has certainly occurred over the past decade, much more needs to be done if black Americans are to escape geographical and residential segregation within the reasonable future.

Fertility and Family Planning

As we have seen, the black population of the U.S. grew from 750,000 to nearly 26.5 million in less than two centuries from 1790 to 1980, reflecting an annual average growth of close to 2 percent. This extremely high rate of growth is attributable almost totally to natural increase since the importing of slaves ended early in the 19th century and immigration from black countries has been miniscule until recently. Because the black death rate was high throughout the 19th and early 20th centuries, it is clear that fertility has been the prime contributor to the black population's rapid growth.

Reynolds Farley, in *Growth of the Black Population*,[11] estimates the black

Figure 4. Total Fertility Rates for Nonwhite and White Women: 1917-1979



Sources: National Center for Health Statistics, *Vital Statistics of the United States, Volume I—Natality*, annual volumes to 1978; and "Advance Report of Final Natality Statistics, 1979," *Monthly Vital Statistics Report*, Vol. 30, No. 6, Supplement (2), September 1981, Table 4.

Note: The total fertility rate indicates the average number of children that would be born to each woman in a population if each were to live through her childbearing years (ages 15-44) bearing children at the same rate as women of those ages actually did in a given year.

pre-Civil War birth rate at more than 50 per 1,000 population. The general fertility rate of over 200 per 1,000 women implies that each year more than one-fifth of black women aged 15 to 44 bore a child. Women who survived through the entire childbearing span must have borne an average of almost seven children. The black population of the pre-Civil War period was a youthful population; more than 45 percent were under age 15. Such a young population can have these high fertility rates.

Reliable statistics to compare the fertility of American whites and blacks are available only since about 1920 and even then are limited to nonwhites rather than blacks alone until 1964. As Figure 4 indicates, the fertility of nonwhites (of whom more than 90 percent are black) has apparently always been higher than that of white women. In 1920, for example, the total fertility rate for whites was 3.2 births per woman; for nonwhites, it was 3.6. (See note to Figure 4 for a definition of the total fertility rate.) During the Depression of the 1930s, fertility rates fell more for whites than for blacks. The post-World War II baby boom occurred among all segments of the U.S. population. For whites the peak fertility rate came in 1957 when it reached 3.6. For nonwhites, 1957 was also the peak year—just over 4.8 births per woman. The baby boom's impact was greater for blacks than for whites. The fertility rate for blacks remained high into the mid-1960s. Indeed, at the end of the baby boom in 1964, the difference in total fertility rates between whites and blacks amounted to 1.1 birth, that is, 4.2 for blacks and 3.1 for whites.

While rates are useful to illustrate fertility behavior in a particular year, the number of births is even more important when looking at the eventual impact on the population as a whole. Total births exceeded 4 million in every year between 1954 and 1964, the only time this has occurred in U.S. history. Thus, while the baby boom is generally assumed to have begun immediately after World War II, in 1947, it was not until the mid-1950s that numbers of births soared. This was particularly true for nonwhites. Annual births to nonwhites climbed to 599,000 in 1954, by far the highest annual number to that date and remained above 600,000 from 1955 to 1972, with slight dips only in 1967 and 1968. (Data for black births alone, available from 1959, show a peak of 611,000 in 1962.[12])

The black fertility rate, however, declined rapidly along with that of white women from the mid-1960s, leading to the socalled baby bust generation of the 1970s. The white total fertility rate dropped to 1.7 births per woman in 1975 and hovered there until rising slightly to 1.8 in 1979. Total births fell from just over 4 million in 1964 to about 3.1 million a year in 1973-75 and climbed somewhat to 3.6 million in 1980 and 1981. The black fertility decline was slower than for whites, but by 1970 the black fertility rate was down to 3.1 and has hovered around 2.3 since 1973.

Black fertility fell less than that of whites during the two low-fertility "disturbances" of the 1930s Depression and 1970s baby bust and increased more than white fertility in the baby boom of 1955-64. The differential impact is noted in the age distribution of the black and white population pyramids of 1980 shown in Figure 2 (page 5). The 1955-64 baby boom birth cohort, aged 15-24 in 1980, is 21.6 percent of the black population, compared to 18.2 percent of the white population. The 1970-79 baby bust cohort (under age ten in 1980) is 18.6 percent of the black population versus 13.6 percent of the white population. Although much has been written about the societal impact of the baby boom and baby bust generations,[13] the potentially even more disturbing impact of the black baby boom and baby bust generations has been little noted. The proportion of baby boom persons reaching working age in recent years is significantly higher for blacks than for whites and proportionately more are teenagers aged 15-19 rather than aged 20-24. Also unlike whites, the relative number of blacks entering the labor force in future years will not be greatly relieved because black fertility did not decline so much during the 1970s. The number of white persons aged 20-24 in 1980 was 36 percent greater than the number under age 5; for blacks, it was only 11 percent greater.

Current unemployment problems of black youth partly reflect past fertility trends. Unfortunately, demographic circumstances do not hold much promise of improvement in the next decade or so.

Reasons for higher black fertility

The reasons for historically high black fertility are numerous. In pre-Civil War days, slave owners discouraged marriage while encouraging high fertility. In this century, such factors as rural living, poverty, lack of education, and a matriarchal family structure all contributed to high fertility. As with all groups, the relationship between education and fertility is strong for black Americans. This can be seen in Table 3 which shows that among both black and white women aged 35-44 in June 1981, the higher the level of educational attainment, the lower the fertility. Black women with a college degree or more education have the lowest fertility of any group shown (1,730 births per 1,000 women compared to 1,857 for white women with four or more years of college). The Census Bureau has found this in decennial censuses since at least 1960 and it has probably been true for many decades. Of course, however, the proportion of college-educated persons is far smaller among blacks than among whites and thus the overall differential still shows higher

Table 3. Fertility of Black and White Women, by Education: June 1981

(Children ever born per 1,000 women aged 35-44)

Years of school completed		Black	White
Elementary	0-7 years	3,879	2,512
	8 years	4,605	3,209
High school	1-3 years	3,919	2,988
	4 years	3,031	2,536
College	1-3 years	2,510	2,335
	4 years or more	1,730	1,857

Source: Bureau of the Census, Population Division, Fertility Statistics Branch, unpublished Current Population Survey data.

black fertility.

The larger proportion of poor families among blacks compared to whites also correlates with their higher overall fertility. The Census Bureau's Current Population Survey of June 1981, for example, showed that among women aged 18-44, the number of children born as of that date was 1,519 per 1,000 women in families with incomes under $5,000 per year compared to just 895 per 1,000 women in families with incomes of $25,000 and over.[14] As we shall see later, a substantially higher proportion of blacks than whites are defined as living below the poverty level.

The higher fertility of blacks should not be exaggerated. Changes over time in fertility have been very similar for blacks and whites and since the mid-1960s the black fertility rate has fallen steadily to the present level of 2.3 births per woman. By any standard this is a low level of fertility. However, completed fertility for blacks was still 33 percent higher than that of white women in June 1981—1,887 births to date per 1,000 black women aged 18-44 compared to 1,414 per 1,000 for their white counterparts. Among women aged 18 and 19, the average for blacks (411 per 1,000) was more than three times the average for whites (128 per 1,000). If teenage fertility as well as unwanted births could be substantially reduced, there is little question that black fertility could approximate white fertility levels in the near future. Among women aged 15-44 queried in the 1976 National Survey of Family Growth, black women reported that 26 percent of their births to that date had been unwanted compared to 10 percent reported by white women.[15] Teenage childbearing, mostly out of wedlock, remains a particularly serious problem for blacks.

Teenage and out-of-wedlock childbearing

Through 1972, the rates of fertility for older teenagers aged 18 and 19, both white and black, declined in concert with the decline in fertility for older women aged 20 and more. At the same time, however, there was a steady increase in rates for women under 18 along with steady growth in the teenage population—those born during the baby boom. As a result, the overall number of births to teenagers was increasing rapidly. Since 1975 both the rates of teenage childbearing and the teenage population have leveled off or declined, resulting in fewer births to teenage girls.[16]

The pattern of decline has been generally similar for black and white teenagers, but both numbers of teenage births as a proportion of total births and teenagers' birth rates remain much higher for blacks than for whites. From 1975 to 1979, births to black women under age 20 dropped 6 percent (168,400 to 158,900); for white teenagers the drop was 7 percent (415,200 to 388,200).[17] As a proportion of total births in each group, teenage births fell from 33 percent to 28 percent for blacks in this period and from 16 percent to 14 percent for whites. In 1979, the birth rate for black women aged 18 and 19 was double that of white women that age (147 per 1,000 compared to 72); among women aged 15-17, the black rate was more than three times the white rate (77 per 1,000 versus 25).

Although total births and overall fertility rates have declined for both black and white teenagers in recent years, rates of out-of-wedlock childbearing have increased. In the three years from 1976 to 1979, the proportion of births born out of wedlock among blacks rose from 71 percent to 79 percent for older teenagers aged 18 and 19 and from 90 percent to 93 percent for women aged 15-17. For white teenagers the rise was from 19 percent to 24 percent for 18- and 19-year-olds and from 36 percent to 42 percent for the 15-17 year-olds. (The proportion of out-of-wedlock births for all women of childbearing age in 1979 was 55 percent for blacks and 9 percent for whites.[18])

The fact that most births to black adolescents are out-of-wedlock is important. Generally the mother has little financial help from the father of the child who himself is probably a teenager. The negative consequences for the mother and the child, as well as the community are a major concern for black Americans.

Black leaders have become particularly concerned. William Haskins, Director of Social Services and Human Resources for the National Urban League, recently observed that the mushrooming numbers of teenage pregnancies and fatherless families threaten to halt black progress in its tracks and throw a shadow over generations to come.[19] The Urban League and other major black national organizations are now seeking community-based solutions to the problem—attempting to get "middle-class" blacks involved—black fraternities and sororities, the Elks and Masons, black doctors and lawyers. As Haskins put it: "They've got to come back to the inner city and volunteer to work person-to-person with young blacks and tell them there is a better way you can make it."

The concern of leading black organizations is encouraging. In past years civil rights leaders tended to dismiss the problems of teenage pregnancy and female-headed households as fruits of racism or economic deprivation. These excuses are now fading. Overt racism has diminished since the early 1960s, while out-of-wedlock childbearing among blacks, particularly teenagers, has ballooned.

Arthur Haupt

The high rate of teenage childbearing is of growing concern in the black community.

Involving middle-class blacks will not be easy. In fact, the middle-class blacks who fled to the suburbs are increasingly alienated from the underclass that presently inhabits the central city. The exodus of community leaders from the central city has combined with a lessening of former moral restraints in the life styles of central-city blacks who migrated from rural to urban areas. The results may in some degree be associated with high rates of black teenage fertility and out-of-wedlock childbearing.

The harmful consequences of teenage pregnancy that lie behind growing concern with this problem in the black community were spelled out in the 1981 publication of the Alan Guttmacher Institute, *Teenage Pregnancy: The Problem That Hasn't Gone Away.*

" The health, social and economic consequences of teenage pregancy are almost all adverse. Pregnancies that end in abortion or miscarriage are, at the least, upsetting and sometimes traumatic to the pregnant women. They also involve some health risks to the teenager (although abortions before the 16th week of pregnancy are less dangerous than childbirth). Those pregnancies that result in births, however—most of which are unintended—have the most obvious negative consequences and are of most concern.

Babies born to teenage mothers are much more likely to die in the first year of life than those born to mothers over age 20. Maternal mortality and morbidity, and the risk of having a low-birth-weight infant, are also considerably greater among teenage mothers.

The most far-reaching consequence of teenage childbearing is the truncation of education among the young parents, and the resulting limitation of opportunities to gain skills needed to compete in society. Largely because of educational deficits, teenage parents are frequently unable to get decent jobs, and their family incomes tend to be much lower than those earned by other families.

The high probability that a teenage mother will bring up her child in a home with no father present is another reason her family income is so low. Even if they do marry, teenage parents are far more likely to spend a large part of their childhood in one-parent households. Alone, with small children, little education and few skills, it is small wonder that many teenage mothers find themselves on welfare or living below the officially designated poverty level. What income they have needs to be stretched to feed more young mouths, since teenage mothers have more births and more unintended births in the course of their reproductive lives than do those who delay childbearing until their 20s.

Living in poverty, lacking education and opportunity and being brought up in a one-parent home hurts the children of teenage parents, too. Such children are likely to have lower IQ and achievement scores than others, and are more likely to repeat school grades than other children. When they grow up, they are more likely than others to become teenage parents themselves."

Contraception and abortion

The relatively low fertility of the 1970s suggests that family planning—whether contraception or abortion—has been embraced by most black women. National data on contraceptive use are available only for currently married women aged 15-44 from the 1973 and 1976 rounds of the National Survey of Family Growth.[20] Data on contraceptive use among teenage women aged 15-19 living in metropolitan areas are available from surveys conducted by Johns Hopkins University demographers Melvin Zelnik and John Kantner in 1971, 1976 and 1979.[21] Data on legal abortions by race from 1973 to 1978 (the latest year available) come from the Abortion Surveillance reports of the Centers for Disease Control.[22]

In 1973, 45 percent of currently married black women aged 15-44 were using contraception and another 15 percent had themselves, or their husbands, been sterilized for contraceptive purposes. Among their white counterparts, the proportions were 54 percent and 17 percent, respectively. Three years later, in 1976, the proportion of contraceptive users was the same for black women (45 percent) but use of contraceptive sterilization had dropped to 13 percent; among whites, contraceptive use dropped to 49 percent but sterilization rose to 20 percent. Sterilization is apparently increasingly popular among white couples but not among blacks; in both 1973 and 1976, also, more than half the sterilizations among whites were obtained by the husband while most sterilizations among black couples were obtained by the wife. The proportion of black married women who were fecund but not using contraception (and not pregnant or seeking pregnancy) was about double the proportion for whites in both 1973 and 1976. Use of the pill, though by far the most popular contraceptive method among both black and white married women, dropped for both groups between 1973 and 1976. To some extent, white couples compensated for this with an increase in sterilization while black married women, especially poor and younger women, shifted to less effective traditional methods, such as foam and rhythm. These differences in contraceptive use among black and white married women may partially explain the continued difference in fertility between the two groups.

Among teenage women aged 15-19, higher rates of premarital intercourse as well as somewhat less use of contraception appear to play a role in blacks' higher rates of fertility and especially out-of-wedlock fertility. The Johns Hopkins surveys found that the rapid increase in premarital intercourse among teenage women in metropolitan areas during the 1970s was due almost entirely to an increase in premarital sexual activity among white women, but in 1979 blacks were still far more likely than whites to have had sexual intercourse before marriage—66 percent compared to 47 percent. Contraceptive use increased among both black and white sexually active teenagers during the 1970s, but in 1979, 36 percent of such black women reported that they never used contraception compared to 24 percent of their white counterparts. As with older women, the pill is the most popular method among teenage women who do use contraception, but pill use declined dramatically among white teenagers between 1976 and 1979, to be replaced largely by withdrawal; this pattern did not appear among black contracepting teenagers. Predictably, the Johns Hopkins researchers found that the incidence of premarital pregnancy rose dramatically for both black and white teenagers during the 1970s but add: "Nevertheless, proportionally fewer premarital pregnancies are resulting in live births to unmarried young women because of the increased recourse of teenagers to abortion."

Although blacks, in national attitude surveys, have indicated consistently that they have greater reservations about abortion than whites, black women have been considerably more likely than white women to terminate unwanted pregnancies since abortion was legalized nationwide in 1973. In a survey of 1975, for example, 16 percent of blacks interviewed were opposed to abortion for any reason compared to only 8 percent for whites, and fewer blacks than whites favored abortion on request (58 percent versus 62 percent).[23] Nevertheless, between 1973 and 1978, the proportion of nonwhite women (most of whom are black) among women obtaining legal abortions rose from 28 percent to 33 percent, although nonwhite women represent only about 20 percent of women of reproductive age.

Abortion ratios and rates also reflect black women's greater use of abortion. In 1973 the abortion ratio for nonwhite women (289 abortions per 1,000 live births) was 1.7 times greater than that of white women (175); by 1978 it was more than twice as high (586 compared to 289). In 1978 the abortion rate for nonwhite women of 60.4 abortions per 1,000 women aged 15-44 was over two-and-a-half times higher than the rate of 22.7 for white women.

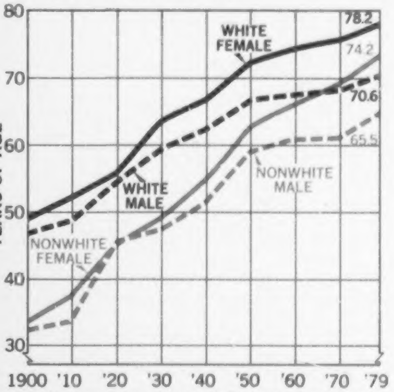
The fact that blacks are obtaining abortions more frequently than whites probably reflects their having more unplanned pregnancies. This could be due to one or a combination of several factors: a greater increase in sexual activity among blacks than whites (though this is not true among black teenagers); increased fecundity per given coital event; use of less effective methods of contraception than whites; and/or coercive pressures on black women to abort their pregnancies rather than to carry them to term. There is no simple way to determine the extent to which each of these possibilities is operative, individually or collectively.

Mortality

Life expectancy

A black American born today can be expected to live about six years less than a white American infant, on average. While this is an indictment of the American system it nevertheless represents the least difference in life expectancy ever recorded for the two groups. In 1900 a newborn nonwhite baby could be expected to live 33 years, on average, while

Figure 5. Life Expectancy at Birth for Nonwhites and Whites: 1900-1979



Sources: National Center for Health Statistics, *Vital Statistics of the United States, 1978*, Volume II—Section 5, *Life Tables* (Hyattsville, MD: 1980); and "Advance Report of Final Mortality Statistics, 1979, "*Monthly Vital Statistics Report*, Vol. 31, No. 6, Supplement, September 1982, Table 3.

the average for a white baby was 47.6 years. As Figure 5 shows, nonwhites have made even more progress than whites since then, particularly nonwhite females. By 1960 the overall difference had narrowed to seven years (70.6 for whites versus 63.6 for nonwhites). In 1979, the most recent year for which such data are available, the difference between whites and nonwhites was just 4.6 years (74.4 versus 69.8), but life expectancy at birth for blacks alone was 68.3 years, hence the gap between whites and blacks was 6.1 years.[24]

Black American men have the lowest life expectancy among the four race-sex groups. On the average, a black male born in 1979 will live 64.0 years compared to 70.6 for white males; for black females the average is 72.7 versus 78.2 years for white females. It is particularly significant that life expectancy at birth for black males has not yet reached 65 years, the age at which retirement with full Social Security benefits is possible. According to the most recent data, the average 20-year-old black American male, presumably just entering the labor force and paying into the Social Security retirement system, can expect to live another 46.4 years or not quite to age 66½.[25]. If the "age-specific" death rates of 1979 were to remain unchanged, only 57 percent of such 20-year-old black American men would survive to collect full retirement benefits at age 65. In contrast, about three-quarters of all white American men now aged 20 would live to reap these awards.

While racial differentials in life expectancy persist, and will no doubt continue to exist as long as socioeconomic differentials are present, the improvement in black longevity in just 75 years is striking. Life expectancy for nonwhites doubled between 1900 and 1974—remarkable progress in such a relatively short period. It remains to be seen if this will continue to eventual convergence with whites.

A comparison of crude death rates, that is, the number of deaths per 1,000 population, presents a different but misleading picture. Since 1975 the annual crude death rate for blacks has been lower than that of whites. In 1979 that rate was 8.5 per 1,000 population for blacks and 8.8 for whites. Such a comparison could be interpreted to argue that blacks have caught up with whites in terms of improved death rates. In fact, however, the lower overall crude death rate for blacks simply reflects the fact that proportionately more of the total black population is in the young ages where death rates are low and fewer are in the elderly ages where death rates are high. Table 4 (page 16) shows that death rates by age group are considerably higher for black males and females than their white counterparts at all ages up to 85 years and over.

Causes of death

Diseases of the heart are the principal cause of death in the U. S. for all groups. Among blacks, 31 percent of all deaths were attributable to this cause in 1979.[26] Cancer was the next leading cause, again for black and whites, males and females. This was followed by stroke for

Table 4. Black and White Death Rates, by Age and Sex: 1979

(Deaths per 100,000 population)

Age	Males		Females	
	Black	White	Black	White
Under 1 year	2,830	1,330	2,375	1,029
1-4	107	66	92	52
5-14	50	38	31	24
15-24	204	171	74	56
25-34	428	172	152	67
35-44	699	259	318	140
45-54	1,400	710	768	376
55-64	2,818	1,754	1,580	889
65-74	4,692	4,008	2,859	2,014
75-84	10,393	9,149	7,377	5,646
85 and over	10,746	17,361	8,159	13,565

Source: National Center for Health Statistics "Advance Report of Final Mortality Statistics, 1979," *Monthly Vital Statistics Report*, Vol. 31, No 6, Supplement, September 1982, Table 2.

Americans as a whole, although accidents are the third leading cause of death for black and white males. Six deaths in ten among black Americans in 1979 were the result of one of the three major chronic killers—heart disease, cancer, and stroke. For whites, the proportion was seven in every ten deaths. The proportion for blacks (or nonwhites) has increased from 52 percent in 1960 and 55 percent in 1970.

Ironically, this increase indicates certain improvements in the health status of the black population. Fewer of them are dying from infectious diseases like pneumonia, tuberculosis, and childhood diseases which are most often associated with poor living conditions and medical care, and more are surviving to die from the chronic diseases which strike older people regardless of race. Nevertheless, when death rates by cause are adjusted to take account of the younger overall age of the black population, the rates for blacks are almost invariably higher than those of whites, as seen in Table 5. For example, the age-adjusted death rates for 1979 show that blacks are about 1.3 times as likely as whites to die from heart disease and more than twice as likely to die from diabetes. Such differences reflect the still substantial variations in life style and circumstances (and thus integration) between the two groups.

Particularly lethal for blacks are accidents and homicide—the socalled "external" causes of death, along with suicide. Blacks are more than six times as likely as whites to die from homicide (and "legal intervention"). This is especially true for black males. Indeed, 15 percent of all deaths to black men in 1979 were attributable to accidents, homicide, and suicide compared to 10 percent for white men. Blacks are also particularly susceptible to "diseases of early infancy" for which their death rate is more than twice that of whites. As noted below, differences in infant mortality rates indicate the same major discrepancy.

Table 5. Ratio of Black to White Age-Adjusted Death Rates for the 15 Leading Causes of Death: 1979

Rank	Causes of death	Ratio of black to white
1	Heart diseases	1.27
2	Cancer	1.32
3	Stroke	1.80
4	Accidents	1.20
5	Chronic obstructive pulmonary disease	0.75
6	Pneumonia and influenza	1.61
7	Diabetes	2.21
8	Chronic liver disease and cirrhosis	1.90
9	Atherosclerosis	1.09
10	Suicide	0.60
11	Diseases of early infancy	2.14
12	Homicide and legal intervention	6.26
13	Nephritis	2.97
14	Congenital anomalies	0.96
15	Septicemia	2.85

Source: National Center for Health Statistics, "Advance Report of Final Mortality Statistics, 1979," *Monthly Vital Statistics Report*, Vol. 31, No. 6, Supplement, 1982, Table C.

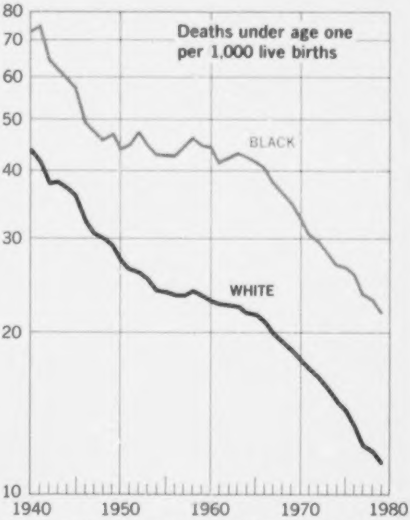
As with fertility, the picture of overall black mortality indicates progress but still no convergence with whites. Changes in causes of death among black Americans over the past two decades are all in the "correct" direction—toward chronic diseases and away from infectious diseases. Clearly, however, much more improvement is needed if blacks are ever to catch up with whites.

Infant mortality

Infant mortality rates also reveal progress for blacks as well as whites over the past two decades, but, unlike life expectancy, the gap between blacks and whites has not narrowed at all. In 1979—the latest year for which data are available by race—the overall infant mortality rate stood at a record low of 13.1 infant deaths per 1,000 live births. For white infants the rate was 11.4 and for blacks, 21.8 (see Figure 6). The black rate was 1.9 times the white rate—the same differential as in 1960 when the rates were 44.3 for blacks and 22.9 for whites.

Blacks have consistently exhibited the highest infant mortality rates of all racial groups in the U. S. American Indians, the group with the next highest rate, have had lower rates than blacks since 1961. To be sure, the black infant mortality rate has fallen rapidly, particularly since 1966 when it was 40.2 births per 1,000 live births and the last year it was over 40. In but 13 years, the rate fell 18.4 points, or 46 percent. However, the white rate fell nearly as much over the same 13 years, from 20.6 (the last year it was over 20) to 11.4—8.2 points or 40 percent.

Figure 6. Black and White Infant Mortality Rates: 1940-1979



Source: National Center for Health Statistics, "Advance Report of Final Mortality Statistics, 1979," *Monthly Vital Statistics Report*, Volume 31, No. 6, Supplement, September 1982, Figure 5.

Why are newborn black babies still almost twice as likely as white babies to die before reaching their first birthday? One factor is differential birth weight. In 1979 black infants were more than twice as likely as white infants (12.7 percent compared to 5.9 percent) to weigh 2,500 grams or less at birth.[27] At this low birth weight, an infant's chances of dying during the first month of life are 40 times greater than for the infant of normal weight and five times greater during the subsequent 11 months. Low birth weight is closely associated with low Apgar scores—a measure used to evaluate an infant's heart rate, breathing, muscle tone, "reflex irritability," and color at one and five minutes after birth, with scores running from zero to a maximum of ten. Here, too, black infants do poorly, with proportions recording low scores (0-3) at both one and five minutes about twice those of white newborns in 1979.[28]

The little evidence available by socioeconomic status indicates that mortality differences are substantially smaller between black and white infants of similar backgrounds. Clearly, most of the overall differential is accounted for by the higher proportion of black infants born to disadvantaged women. Helen Foster Giles notes that having a low-birth-weight baby is closely associated with mothers who are under age 20 or over 35, unmarried, and of low income and minimal education, and the proportions of black mothers in these categories are higher than for white mothers.[29]

Since the publication of *An American Dilemma* in 1944, much progress has transpired among black Americans, and this is true of mortality and, by implication, health conditions. Yet much more needs to be done if parity with whites is ever to be achieved. That being born black still means six fewer years of life on average than for a white reveals that the American Creed, with its insistence on the equality of all citizens, is still far from a reality for black America. Of all the basic rights bestowed on an individual by virtue of being American, the right to longevity seems particularly critical. The fact that only slightly over half of young black males can aspire to Social Security retirement benefits also illustrates blacks' persistent disadvantage; one might speculate to what extent the U.S. Social Security system is supported by black males.

A newborn black baby is still almost twice as likely as a white baby to die before reaching its first birthday and is likely to weight less and score less on Apgar measures. The black mother is less likely to receive prenatal care and is four times more likely than a white mother to die in giving birth. (The 1979 maternal mortality rate was 25 deaths per 100,000 live births for black women versus 6 for white women.[30])

Black children are less likely to receive health care. In 1979, for example, just 39 percent of nonwhite children aged 1-4 had had polio shots compared to 64 percent of white children that age.[31] The differences are similar for other immunizations, such as against measles and rubella. All this indicates that poverty remains prevalent among black Americans and, given the current administration's planned reduction in public health programs on which low-income persons rely, one can anticipate little progress toward parity in the near future.

Migration

For as long as they have inhabited this planet, humans have migrated, seeking to better their lot in life. Unfortunately, that is not the whole story. On occasion, people who preferred to remain "home" have been forced to move. Human bondage has been one of the prime causes of such involuntary movements. The slave trade between Africa and the Americas resulted in "an estimated 9.6 million slaves [being] transported to the New World from 1651 until the abolition of slavery in the 19th century . . . . This was the greatest slave migration in history in terms of distance and numbers moved."[32] Blacks, like other Americans, are here because their ancestors moved here. Unlike other Americans, their ancestral move was almost entirely involuntary.

Internal migration

Just as the move to America had been involuntary, so too was the failure to move for the next two centuries after arriving here. Slaves were not allowed to move of their own volition and only a few runaways "changed residence." It was not until after World War I that any significant migration occurred among black Americans. Once begun, however, the movement was enormous. Referring to this early migration from the rural South, Taeuber and Taeuber wrote: "The volume of these movements during some decades has been nearly unbelievable, especially when it is recognized that the movement often involves radical transformation in the way of life of the Negro migrant."[33]

Table 6 shows the net migration of blacks between regions from 1910 to 1980. Net movement from the South was quite large until dampened by the Depression of the 1930s. The exodus resumed momentum in 1941 at the start of World War II and in both the 1940s and 1950s the South lost about 1.5 million blacks to the rest of the nation, especially

Table 6. Net Migration of Blacks, by Region: 1910-20 to 1975-80

(Numbers in thousands)

Period	South	Northeast	North Central	West
1910-20	− 454	+ 182	+ 244	+ 28
1920-30	− 749	+ 349	+ 364	+ 36
1930-40	− 347	+ 171	+ 128	+ 49
1940-50	− 1,599	+ 463	+ 618	+ 339
1950-60	− 1,473	+ 496	+ 541	+ 293
1960-70	− 1,380	+ 612	+ 382	+ 301
1970-75	+ 14	− 64	− 52	+ 102
1975-80	+ 195	− 175	− 51	+ 30

Sources: 1910-1970: Bureau of Census, "The Social and Economic Status of the Black Population in the United States: An Historical View, 1790-1978," *Current Population Reports*, Series P-23, No. 80, 1979, Table 8; 1970-1975: "Mobility of the Population of the United States,: March 1970 to March 1975, "*Current Population Reports*, Series P-20, No. 285, 1975, Table 28; 1975-1980: "Geographical Mobility of the Population of the United States: March 1975 to March 1980," *Current Population Reports*, Series P-20, No. 368, 1981, Table 42.

the Northeast and North Central regions.

The pattern began to change in the mid-1960s. In the second half of the decade, net migration of blacks from the South dropped to 216,000 and the North Central and West regions received considerably more blacks than the Northeast. The stage was set for a major reversal in black migration patterns.

For many blacks Americans as well as whites, the South, with its burgeoning economy, mild climate, and relaxed life style, became the mecca of the 1970s. As employment opportunities grew rapidly in the South and declined in the decaying industrial centers of the North, and with a racial tensions eased in the wake of the civil rights movement, a flood of northern blacks moved or returned to the South and fewer moved out. About as many blacks moved to the South as moved out in the first half of the decade and, probably for the first time ever, more blacks left the Northeast and North Central regions than moved in. Only the West registered a major net inmigration of blacks. By 1975-80 the pattern was clear. Not only were blacks moving South in large numbers and fewer were leaving, but the region was also receiving more blacks than the West, while the two northern regions were losing still more blacks. Net black migration into the South amounted to almost 200,000. Over the 1970-80 decade, 717,000 blacks moved South while only about 500,000 left the region.

Press stories of blacks' "return"or move "back to the South" during the 1970s gave the impression that blacks were returning to their rural origins. Closer study shows that this movement was primarily from northern cities to urban areas in the South. Census Bureau demographer Larry Long reports that among migrants to the South during 1975-80, 61 percent of blacks as compared to 46 percent of whites moved from one urban area to another.[34] In a recent study of southern "black belt" counties, sociologist Lewis Jones of Tuskgee Institute found that there was no measurable return migration to rural areas because those who left for jobs in the factories of the North Central region were either tenant farmers or sharecroppers and did not own land or a home to return to.[35]

Another unexpected migration reversal occurred during the 1970s: metropolitan areas lost population to the nonmetropolitan areas of the country. Indeed, nonmetropolitan areas gained nearly 3 million people through migration. But this pattern was not shared by blacks who continued to register net migration into metropolitan areas of the nation, although at a slower pace after 1975. Black net migration into metropolitan areas amounted to 218,000 in 1965-70, 138,000 in 1970-75, and only 116,000 in 1975-80.[36] Interestingly, the number of blacks moving into metropolitan areas was about the same in all these five-year periods; however, the number moving out has gradually increased.

The overall net loss from the metropolitan areas in the 1970s due to migration was the result of very large net losses by central cities; metropolitan surburban areas continued to grow through migration.

This time, blacks shared the general pattern, with one difference—their net migration into suburbs outweighed their net outflow from central cities so that, overall, metropolitan areas still gained more black population than they lost.

International migration

With the passage of legislation in 1808 outlawing further slave crossings from Africa, forced black immigration to America eventually came to an end. From the early 19th century to the mid-20th century, immigrants scarcely counted in the growth of the U. S. black population. Although this remains true, black immigration has been growing, albeit slowly, in recent decades.

This stream began with a trickle from the West Indies, particularly Jamaica and Trinidad, as early as the 1890s. Most black immigrants to the U. S. still come from the West Indies, with about 170,000 arriving between 1975 and 1979 from the Barbados, Guyana, Haiti, Jamaica, Trinidad and Tobago, and the smaller islands.[37] At the same time, about 30,000 Africans entered legally to join the growing number of Africans now living in the U. S. Thus, some 200,000 foreign-born blacks (a number which does not include black Hispanics) moved to the U. S. during the latter half of the 1970s and settled primarily in large urban areas of the Northeast. The number is bound to grow during the 1980s, adding to the changing composition of black America. That population, once overwhelmingly the descendants of slaves with a scattering of immigrants from the West Indies, now includes Haitians, Nigerians, Ethiopians, Ghanians, and more West Indians, as well as a number of black Hispanics from Puerto Rico, Dominican Republic, Cuba, and elsewhere.

The universal movement of people to better themselves is thus evident in black America, both in domestic migration—first out of the South and then back again, out of rural areas into cities, and now into suburbs—and increasingly from outside the nation's boundaries.

Family and Marital Status

Earlier black families

The "traditional" American family of childen and their married parents who remain married until one spouse dies hardly existed for blacks during at least two-thirds of their history in this country. The slave had no property rights as a human being before the law, no legal recognition of marriage, no recognition of lineage. Out of this grew the strong matriarchal affiliation which still characterizes black families because it was the mother who provided such nurturing of youth as was possible in a slave society.[38]

In the first half of the 20th century, available evidence suggests that the black family was often organized around the mother and often disrupted. In 1910, for example, only 36 percent of black women aged 50-54 were living with their first husbands in contrast to 59 percent of white women that age.[39] Another 35 percent of these black women were widowed or divorced, compared to 19 percent of their white counterparts. The situation was little changed by 1940.

As recently as 1960, less than half of all adult black women were married and living with husbands and over 16 percent were either divorced or separated; for white women, the proportions were two-thirds married and 6 percent divorced or separated. Commenting on this situation in the mid-1960s,Hauser stated:

> "Family disorganization and unstable family life among Negro Americans is a product of their history and caste status in the United States. During slavery and for at least the first half century after emancipation, the Negro never had the opportunity to acquire the patterns of sexual behavior and family living which characterized middle-class white society. African family patterns were, of course, destroyed during slavery and it was virtually impossible to establish any durable form of social organization. Moreover, as a result of the slave traffic, children were necessarily at-

Table 7. Black and All Families: 1970 and 1980

Family type and presence of own children under 18	1970		1980		Percent increase in number, 1970-1980	
	Black	All races	Black	All races	Black	All races
All families						
Number (in thousands)	4,887	51,586	6,042	58,426	23.6	13.2
Percent	100.0	100.0	100.0	100.0	—	—
Married-couple families	68.0	86.7	55.5	82.5	0.9	7.6
With own children	40.9	49.5	31.2	42.0	−5.9	−3.9
No own children	27.1	37.2	24.3	40.5	11.1	22.9
Single-parent/child families	20.2	6.4	30.6	10.2	87.7	81.7
Mother and own children	18.7	5.7	28.9	9.2	91.6	82.4
Father and own children	1.5	0.7	1.7	1.0	39.7	76.5
Other families	11.8	6.9	13.9	7.3	44.9	20.5

Source: Paul C. Glick, "A Demographic Picture of Black Families," in Harriette Pipes McAdoo (ed.), *Black Families* (Beverly Hills, CA: Sage, 1981) Table 6.1, p. 108.

tached to their mother in a more lasting manner than their father."[40]

Some 20 years later it is appropriate to ask, Is the black family still a "problem"? or is it, as Harvard's Charles Willie argued in 1970, that " . . . . 'the' Negro family is itself a fiction. Different family forms prevail at different classes and income levels throughout our society."[41]

Black families today

In 1980, as Table 7 shows, 86 percent of black families consisted of married couples with or without children or a single parent living with at least one of his/her own children aged under 18. For the total population, 93 percent fall into one of these categories. Thus black families are twice as likely as other families (14 versus 7 percent) to consist of such combinations as grandparents with grandchildren or brothers and sisters living alone.

Black families are also far more likely than others to consist of single parents with children, although the proportion of such families rose for both blacks and the total population during the 1970s, while the proportions of married-couple families declined. In 1980, single parents with children made up 31 percent of all black families compared to 10 percent for the total population. Among black families with children, about half were headed by single parents; for the total population, the comparable proportion was less than one-fifth. This is a gap that has persisted since at least 1950 when only 9 percent of black families were maintained by single parents but the proportion for the total population was a still much lower 4 percent.

Among single-parent families of all races, 90 percent are headed by the mother; for blacks it is 94 percent. Female-headed black families nearly doubled in number during the 1970s. This inevitably affected the living arrangements of black children. In 1980 more black children under age 18 were living with their mother only (44 percent) than with two parents (42 percent).[42] In contrast, 83 percent of white children under 18 were living with two parents and only 14 percent with their mother only.

Three out of ten black households in

Table 8. Marital Status of Blacks and All Races in Selected Age Groups, by Sex: 1960, 1970, 1980

Marital status, age, and race	Men			Women		
	1960[a]	1970	1980	1960[a]	1970	1980
Percent never married, age 20-24						
Black	56	57	79	36	43	69
All races	53	56	69	29	36	50
Percent separated or divorced, age 25-34						
Black	8	9	13	17	20	28
All races	4	5	9	6	8	14
Percent in intact marriage, age 35-44						
Black	71	69	61	62	58	49
All races	84	84	81	80	79	84
Percent widowed, age 55 and over						
Black	16	16	14	47	44	45
All races	12	11	9	38	38	37

Source: Paul C. Glick, "A Demographic Picture of Black Families," in Harriette Pipes McAdoo (ed.), *Black Families* (Beverly Hills, CA: Sage, 1981) Table 6.3, p. 115.

[a] Black data for 1960 are for nonwhites.

1980 were not maintained by a family. As with the general population, black nonfamily households increased faster than family households during the 1970s. Most of the nonfamily households consisted of either young unmarried persons or elderly widowed persons living alone. As family demographer Paul Glick remarks: "Evidently an increasing number of [black] adults today find it financially feasible to keep up a home alone who would have shared the home of someone else in earlier times."[43] In 1980, 3.5 percent of black households consisted of an unrelated man and woman living together with no other adult; 2 percent of all households in the total population were of this type. Blacks are also more likely than the general population to be living in group quarters. Such differences, along with the fact that only half of the black population in 1980 lived in households maintained by a married couple compared to three-fourths for the general population, reflect the greater marital disruption among blacks compared to whites.

Marital status

As Table 8 shows, the 1970s increase in both delayed marriage and marital disruption (separation and divorce) was even more marked among blacks than among the general population. Among young women aged 20-24, for example, the percentage still unmarried was 43 percent for blacks and 36 percent for the general population in 1970 and widened to 69 percent for blacks and 50 percent for all women that age by 1980. Young blacks' greater tendency to postpone marriage may be linked to their higher unemployment rates and more rapidly increasing college enrollment rates.[44]

In the 25-34 age bracket, 28 percent of black women and 13 percent of black men reported themselves as separated or divorced in 1980, again higher than for the general population. Indeed, the 28 percent for black women was double the 14 percent for all women that age. Conversely, the proportion of people aged 35-44 living in an intact marriage was lower for blacks than whites. Less than half of black women of that age were in intact marriages compared to 84 percent among white women. Blacks' lower overfall family incomes may be a factor in their higher rates of separation and divorce; for all races, separation and divorce tend to be negatively related with income. Black women are the most likely of all race-sex groups to be divorced. In 1981 there were 289 divorced black women for every 1,000 black women who were married and living with their spouses; this compares with 178 for black men, 118 for white women, and only 82 for white men.[45]

Black men's low life expectancy is the chief explanation for racial differences in marital status at older ages. No less than 45 percent of black women aged 55 and over were widows in 1980 compared to only 37 percent of all women this age, as seen in Table 8.

Thus, differences persist between black and white American families. However, it is appropriate in the 1980s to agree with the comment of black family specialist Marie Peters that black families be regarded as "an important subculture of American society, different in many ways from white families, but possessing a value system, patterns of behavior, and institutions which can be described, understood and appreciated for their own strengths and characteristics."[46]

Some differences between black and white families are narrowing. For example, the proportion of children living in single-parent families increased faster for the total population than for blacks during the 1970s. Although the high and growing proportion of black families headed by a woman is a problem, this is one now increasingly shared by the white population. In fact, given the difficult social and economic problems of blacks, it is remarkable, as Howard University Professor Harriette McAdoo has stated, that "black families have managed to sustain their families under pressures that are now being shared by a growing number of non-black families."[47]

Black families have many strengths.

Education

Before any group can attain a high level of education, the proportion attending school must also be high. Even before this, illiteracy must be virtually eradicated. This section on black education focuses first on illiteracy, then on school enrollment, and finally on educational attainment.

In comparing black and white education levels, it must be realized that it is much easier for the "oppressed" group to make significant percentage gains than it is for the "advantaged" group. Indeed, "increasing the level from a median of four years of school completed to a median of six years completed is usually accomplished more rapidly than increasing the median from, say, 11 years to 13 years."[48] Blacks, being historically far behind whites in education, can be expected to register substantial socalled advances.

Illiteracy

In 1880, 80 percent of all blacks aged 20 and over were illiterate. (Illiteracy was defined as the inability to write, regardless of ability to read.) Fifty years later, in 1930, the percentage had dropped to 16.

With illiteracy almost eliminated, the question has not been asked in censuses since 1930. A Census Bureau survey of 1969 showed that among persons 14 and over a mere 0.7 percent of whites were illiterate compared to 3.5 percent of blacks. While the black rate remained higher, it represented a major accomplishment in a relatively short time. "A single index—the reduction of the illiteracy of the Negro from 95 percent in 1865 to less than 10 percent in 1940 [and less than 4 percent in 1969]—shows that the various educational agencies at work have wrought miracles in three brief generations."[50]

School enrollment

School attendance was practically nonexistent among southern blacks in pre-Civil War days. Indeed, less than 10 percent of southern blacks aged 5-20 were enrolled in school in 1870. By 1930, the proportion was up to 58.5 percent, close to the two-thirds registered among whites of that age in the South. Similar progress took place outside the South, and by 1980 school enrollment rates were virtually the same for blacks and whites throughout the nation (see Table 9). Differences were marked only for persons aged 20-21 (32 percent for whites versus 23 percent for blacks). Interestingly, enrollment rates in the fall of 1980 for all persons aged 3-34 were actually higher for blacks (54 percent) than for whites (49 percent). The reason for this apparent contradiction lies in the different age structures of the two groups. Relatively more blacks than whites are in the ages up to 18 when almost everyone is in school.

Table 9. Black and White School Enrollment, by Age: 1970 and 1980

(Numbers in percent)

	Black		White	
Age	1970	1980	1970	1980
3-4	14.4	38.2	12.1	36.3
5-6	67.8	95.4	73.1	95.8
7-13	95.8	99.4	97.5	99.2
14-15	93.7	97.9	96.3	98.3
16-17	84.3	90.6	90.1	88.6
18-19	47.7	45.7	57.7	46.3
20-21	18.2	23.4	32.2	31.9
22-24	8.8	13.6	15.2	16.4
25-34	4.9	7.8	6.2	7.8
Total, 3-34	54.4	53.9	54.2	48.9

Sources: Bureau of the Census, *1970 Census of Population, General Social and Economic Characteristics, United States Summary*, PC(1)-C1, 1972, Tables 88 and 131; and "School Enrollment—Social and Economic Characteristics of Students: October 1980," *Current Population Reports*, Series P-20, No. 362, May 1981, Table 6.

Change in the proportion of blacks attending college is a good indicator of educational progress and especially significant in that a college degree is increasingly the "admission ticket" to socioeconomic advancement. The percentage of blacks aged 18-24 enrolled in college has nearly doubled since 1965, from 10.3 percent to 19.4 percent in 1981. Over the same period, the comparable proportion among whites has remained at about 26 percent.[51] As recently as 1970, blacks comprised only 7.7 percent of all college students under age 35, while blacks were then 11.1 percent of the total population. Black college enrollment increased faster than enrollment among other races in the first half of the 1970s, and the approximately 1 million blacks enrolled in college each year since 1976, about 10 pecent of all college students, has been at least equal to the proportion of persons in the eligible population who were black (14- to 34-year-old high school graduates).[52]

Thus, in the 110 years since 1870, black school enrollment has grown from under 10 percent for blacks aged 5-20 to virtual or near parity with whites in the school-going ages. This progress has still to be translated into equality in educational attainment among black and white adults over school age, as noted below. Also, school dropout rates, while converging, are still higher for blacks: in 1981, 13.6 percent of blacks aged 16-19 were out of school without a high school

Table 10. Educational Attainment of Persons Aged 25 and Over, by Race: 1940, 1960, 1980

Years of school completed	Nonwhite		Black	White		
	1940	1960	1980	1940	1960	1980
Percent	100.0	100.0	100.0	100.0	100.0	100.0
Under 5 years	41.8	23.7	9.2	10.9	6.7	2.6
5-7 years	29.9	24.3	11.0	17.4	12.8	5.3
8 years	11.9	12.9	7.3	29.8	18.1	8.4
High school 1-3 years	8.7	19.0	21.3	15.8	19.3	13.2
4 years	4.5	12.9	30.9	15.3	25.8	37.7
College 1-3 years	1.9	4.1	12.5	5.9	9.3	15.1
4 years or more	1.3	3.1	7.9	4.9	8.1	17.8
Median years completed	5.8	8.2	12.0	8.7	10.9	12.5

Sources: Bureau of the Census, *1970 Census of Population, General Social and Economic Characteristics, United States Summary*, PC(1)-C1, 1972,Table 75; and unpublished 1980 Census data.

diploma compared to 11.7 percent for whites.[53]

Educational attainment

Change over time in the educational attainment of adults over 25—the age by which most people have completed their education—is perhaps the best quantitative measure of socioeconomic progress. In the U. S. we can expect steady increases in the average years of school completed for the total adult population as older adults who benefited from much less education die off, to be replaced by younger people who have had far more educational opportunities. Both blacks and whites have registered such progress since 1940, as seen in Table 10.

The proportion of blacks with at least a high school education (4 years of high school and more) grew from about 8 percent (for nonwhites) in 1940 to 51 percent in 1980; for whites, the gain was from 26 percent to 71 percent. Similarly on the college level, by 1980 close to 8 percent of blacks had graduated compared to only 1.3 percent in 1940. However, the 1980 proportion among whites (18 percent) was still more than double that of blacks. Perhaps the greatest improvement for blacks is in the reduction of functional illiteracy—less than five years of schooling—which dropped from 42 percent in 1940 to 9 percent in 1980.

Thus, educational attainment has improved in all segments of the U.S. population, as was to be expected. But have blacks gained relative to whites over the 40-year period? Gains in median years of schooling completed were marked during the 1970s: by 1980 the median for blacks (12.0 years) was almost up to that of whites (12.5 years). The latest data for persons aged 25-34 also reveal recent progress. In 1981, 76 percent of blacks in that age group had completed at least four years of high school and close to 12 percent had had four or more years of college; among whites, the respective proportions were 87 percent and 24 percent. As recently as 1970, comparable proportions were 53 percent and 6 percent for blacks and 76 percent and 17 percent for whites.[54]

Blacks have begun to catch up with whites in educational attainment, although this is a recent phenomenon. The overwhelming embrace of education by blacks since the opportunity was made available to them is equally evident in the decline of illiteracy and rapid increase in school enrollment. Despite legal and extra-legal barriers, blacks have availed themselves of the crumbs offered by the

Harold M. Lambert

College graduates among blacks aged 25-34 doubled from 6 to 12 percent between 1970 and 1981, but the proportion is still only half that of whites.

white power structure. The contest is far from over, but the progress of the 1970s augurs well for eventual convergence, even given the likely setback in black college attendance with the current administration's reductions in federal student aid.

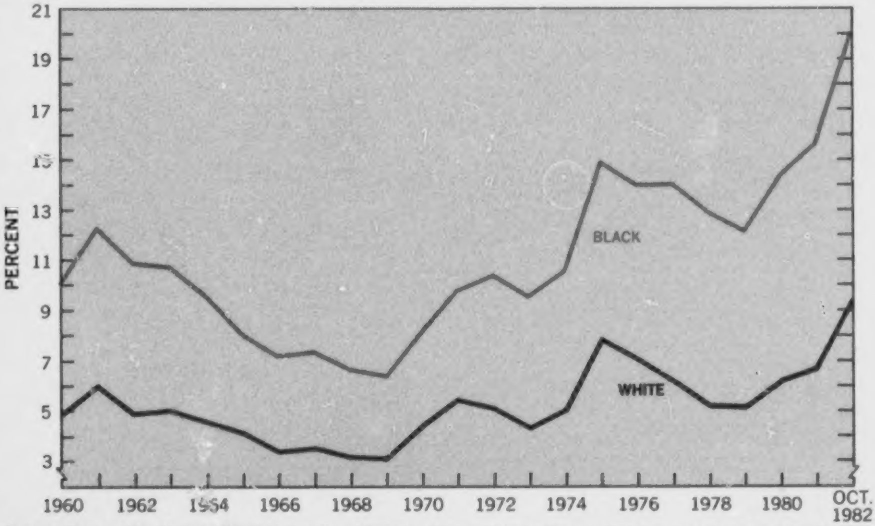
However, the statistics on black educational gains, while encouraging, do not indicate the *quality* of education. Whether in 1880 or in the 1980s, the schooling provided to blacks has generally been inferior to that available to whites. Evidence for this are the latest scores for blacks and whites on the Scholastic Aptitude Tests taken by college-bound high school seniors. That schooling for blacks has improved somewhat is evident in the fact that blacks (and other minorities) contributed most to the upturn in overall SAT scores between 1981 and 1982—the first such upturn since 1963. However, scores for blacks in 1982 were still at least 100 points below those of whites: 341 (out of a possible 800) in the verbal part of the test compared to 444 for whites, and 366 in math versus 483 for whites. Commenting on the disparity, University of Pittsburgh psychologist Lloyd Bond said: "It's a dramatic illustration of the sheer lack of quality eduation these youngsters are receiving . . . Minority students are getting short-changed."[55]

Employment and Occupation

Until recent times, blacks were more likely than whites to be "in the labor force." In 1900, for example, 65 percent of blacks aged 14 and over were so classified compared to 52 percent of whites. The difference was due to there being both more blacks looking for work and higher black labor force participation rates among younger and older persons as well as females. By 1960, there was no difference, and in 1981, slightly fewer blacks aged 16 and over (62 percent) than whites of that age (65 percent) were either working or looking for work.[56] At all ages, white men are now more likely than black men to be in the labor force—a change from earlier patterns. Among women, labor force participation rates are higher for whites up to age 20 and higher for blacks from that age on. Overall, 54 percent of black females were in the labor force in 1981 compared to 52 percent of white females.

While black and white labor force participation rates are similar, this is far from the case with employment per se. For as long as statistics on employment have been gathered, a general "rule of thumb" has been that "whatever the total unemployment rate is, the black rate can be assumed to be twice as large."[57] This was true at the end of the 1950s when more than 10 percent of would-be black

Figure 7. Black and White Unemployment Rates: 1960-1982



Sources: Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970*, Part 1, 1975, Series D 87-101; and Bureau of Labor Statistics.

Note: Black data for 1960-1971 are for "Blacks and other races."

workers were unemployed compared to 4.8 percent for whites, and has been true ever since, for males and females as well as the combined unemployment rates, as seen in Figure 7. Even in the healthy economy of the early 1960s, total black unemployment did not fall below 9 percent until 1965. The current situation is, of course, the worst recorded in many decades. But conditions have worsened over the past 15 years.

> "Since 1969 the national economy has fluctuated progressively toward worse recessions that placed black workers in an increasingly unfavorable position as each new recession began. For example, about 180,000 black workers lost their jobs during the 1969-71 recession and large numbers were still unemployed when the 1974-75 recession began. Similarly, black workers had barely begun to recover from the 1980 pause in economic growth when the current recession began during the fourth quarter of 1981."[58]

In October 1982 the total U.S. unemployment rate climbed to 10.4 percent—the highest since the Depression of the 1930s. Black unemployment rates stood at more than twice the rates for whites: 20.2 percent versus 9.3 percent for men and women combined; 19.8 percent versus 8.8 percent for men over 20; 16.3 percent versus 7.6 percent among women over 20; and, among teenagers, 46.7 percent for blacks compared to 21.7 percent for whites.

Occupation

Changes in the occupational distribution of black workers over the past 40 years must be considered in the context of shifts in the occupational pattern of the entire nation from manufacturing and agricultural labor into service industries, a category that ranges from auto repair and health and hotel services to education. In 1940, 63 percent of the total work force was engaged in the production of physical goods and only 37 percent were providing services; by 1981

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the proportions were 38 percent and 62 percent respectively.[59] Fewer than 3 percent (2.7 percent) of all employed persons worked on farms in 1981.[60]

In 1940, 41 percent of all employed blacks worked in agriculture and another 15 percent were in domestic and personal services. For whites, the proportions were 21 percent in agriculture and 6 percent in domestic and personal services. Nine percent of blacks were white-collar workers compared to 26 percent of employed whites.

By 1960 great changes had occurred, largely as a result of World War II. Only 11 percent black workers remained in agriculture and 8 percent among whites. Less than 1 percent of employed blacks were in domestic service but another 14 percent still provided "personal services." The proportion in white-collar jobs had increased slighly to 11 percent—still less than one-third of the proportion of whites in such occupations.

Carl Haub

Black women in particular have made notable occupational gains since 1970.

Occupational gains for black American workers were truly remarkable in the 20 years after 1960. By 1980 some 40 percent were in white-collar occupations compared to 54 percent for whites, and fewer than 2 percent were farm workers versus nearly 3 percent among the white employed.[61] The proportion in craft occupations (9.6 percent) was approaching that of whites (13.3 percent). However, these broad occupational shifts do not tell the whole story. Assuming that blacks represent about 11 percent of the total population of "working age" (16-64), more detailed occupational statistics show that they are overrepresented in certain occupations and underrepresented in many others (see Table 11).

Table 11. Proportion of Blacks Among Workers in Selected Occupations: 1980

(Percent of total in each occupation, by sex)

Occupation	Black men	Black women
Professional and technical	4.4	8.8
Engineers	2.2	[a]
Physicians, Dentists	2.1	5.0
Lawyers, Judges	3.1	7.1
Teachers, college and university	3.3	5.3
Managers, Administrators	3.2	5.2
Sales	3.5	4.4
Clerical	10.9	8.9
Craft and kindred workers	7.0	8.1
Operatives, except transport	11.7	14.6
Transport equipment operatives	14.7	11.2
Farmers and farm managers	1.6	[a]
Farm laborers and foremen	12.7	7.0
Service workers, except private household	15.7	15.9
Private household workers	[a]	31.9

Source: Diane Nilsen Westcott, "Blacks in the 1970's: Did They Scale the Job Ladder?" *Monthly Labor Review*, June 1982, Table 3, p. 32.

[a] Less than 4,000.

Black women still made up 32 percent of all women employed in private households in 1980 and 16 percent of other "personal service" female workers. At the top of the ladder, black men still hold only 2 to 3 percent of the best-paid white-collar jobs—in engineering, medicine, law, and university teaching—although their proportions are higher in the better paying blue-collar jobs, such as car-

Table 12. Median Income of Black and White Families: 1960, 1970-1981

(in constant 1981 dollars)

Year	Median family income			Black family income as percent of white income
	Black	White	All races	
1960	9,919[a]	17,919	17,259	57
1970	14,707	23,975	23,111	61
1971	14,462	25,966	23,097	60
1972	14,922	25,107	24,166	59
1973	14,877	25,777	24,663	58
1974[b]	14,765	24,728	23,795	60
1975	14,835	24,110	23,183	62
1976	14,766	24,823	23,898	59
1977	14,352	25,124	24,027	57
1978	15,166	25,606	24,591	59
1979	14,590	25,689	24,635	57
1980	13,989	24,176	23,204	58
1981	13,266	25,517	22,388	56

Source: Bureau of the Census, "Money Income and Poverty Status of Families and Persons in the United States: 1981, Advance Data from the March 1982 Current Population Survey, *Current Population Reports*, Series P-60, No. 134, July 1982, Table 3.

[a] 1960 data for "blacks and other races."

[b] Methodology revised in 1974.

pentry and plumbing. In a recent review of black occupational gains in the 1970s, economist Diane Westcott noted that "Most of the occupational upgrading occurred among the smaller number of blacks who resided in suburban areas."[62] In the central cities, where the vast majority of blacks still live, "only black women competed successfully for jobs in those occupations in which women are heavily recruited." With the onset of the computer age, the occupational structure of the nation will continue to change. To compete on fair terms with whites for the new jobs opening up in the remainder of the 1980s and later, blacks' access to better education, training, and retraining will have to be improved.[63]

Income and Poverty

If blacks have made progress vis-à -vis white Americans in education and occupation, particularly in recent years, has this been reflected in improved incomes? In the U.S., what a family or person earns is the bottom line in determining "progress."

Scattered data available for nonwhites before 1960 show that in 1939, the median annual earnings of nonwhite males ($460) were just 41 percent of those of white males ($1,112).[64] The immediate post-World War II period registered slight improvements: nonwhite *family* income was 50 percent of that of whites in 1947 and 53 percent in 1954. By 1960 the median nonwhite family income had inched up to 57 percent of the median for white families, as seen in Table 12, which measures black-white differentials in median family income since 1960 in constant 1981 dollars.

There can be no question that some progress took place during the 1960s when the Great Society and the civil rights movement were in full flower. By 1970 the median income for black families stood at 61 percent of the white median. The peak for the 1970s came in 1975 (62 percent). Since then the income gap between black and white families has widened again and the 1980s show little promise of improvement. Indeed, the level in 1981, when the median black family income of $13,266 was 56 percent of the white median of $23,517, was even lower than the nonwhite level of 57 percent in 1960.

More detailed data show variations in the income differential, but in no case does black family income even approximate white family income. Among those families where the wife is in the paid labor force, for example, the 1981 median family income for blacks was $25,040, or 84 percent of the white median of $29,713.[65] By region, black families fared best in the West, where their median of $16, 592 was 68 percent of the white median ($24,324). At the other extreme, in the South, black family income ($12,283) amounted to 56 percent of white median family income ($22, 051)—the same as for the nation as a whole.

To be sure, the fact that blacks are less educated and more likely to be in lower paying jobs than whites contributes to the overall income differential between the two groups. But studies have found that the differential persists among blacks and whites of similar education and occupation and in the same regions. For example, demographer Daniel Price, using 1960 census data, found that even in occupations in which nonwhites' median educational attainment is above that of whites, the median nonwhite income is lower.[66] Also using 1960 census data, Paul Siegel concluded that, even if nonwhite men aged 15-64 had been distributed in the same regional, educational, and occupational patterns as their white counterparts, their average income in 1959 would still have been 38 percent below that of white men.[67] The evidence is clear—blacks earn less money than whites, irrespective of household composition, education, or region.

Poverty

Sad to say, the words "black" and "poor" have always been closely related. While most blacks are *not* poor and many whites are, the difference in the proportions living in poverty is so great that the unfortunate word association is appropriate. Contributing to the large number of poor blacks is the history of blacks in America, from slavery followed by serfdom and sharecropping in the South, to a ghetto existence in northern cities. Although the proportion of poor blacks has generally declined in the two decades that the Census Bureau has been measuring "poverty," the problem exists in 1982 as it did 50 and 100 years ago.

The poverty "threshold" used by the Census Bureau is set at about three times the cost of an "economy food plan" and varies by family size and age of the "householder," with annual adjustments for inflation. It is based solely on money income and does not reflect the fact that many low-income persons receive noncash benefits such as food stamps, Medicaid and Medicare, and housing aid. In 1981 the average poverty level for a family of four was $9,287.

Thirty-four percent of all black individuals compared to 11 percent of all whites fell below the poverty level in 1981. There was, in fact, an increase in the poverty rate in all groups between 1979 and 1981 and presumably the increase will continue in 1982. Close to 2 million black families, 30.8 percent of the total, were living in poverty in 1981; among whites, 4.7 million families, or 8.8 percent, were classified as poor (see Table 13). Poverty is particularly evident among households headed by a female with no husband present. Over one-half (52.9 percent) of all such black families were below the poverty level in 1981; among such white families, the rate was 27.4 percent.

These data are perhaps the key to the present dilemma of the black family and have the potential of creating a permanent "underclass" for decades to come. Whether looking at family size or educational attainment and occupation of the householder, the result is always the same—blacks are considerably more likely to be in poverty than their white counterparts. Detailed poverty data for 1981 show that:[68]

Table 13. Black and White Families Below Poverty Level: 1959, 1966-81

	Families below poverty level				Ratio of black to white poverty rate
	Black		White		
Year	Number (in thousands)	Poverty rate (% of all black families)	Number (in thousands)	Poverty rate (% of all white families)	
1959	1,860	48.1	6,185	15.2	3.2
1966[a]	1,620	35.5	4,106	9.3	3.8
1967	1,555	33.9	4,056	9.0	3.8
1968	1,366	29.4	3,616	8.0	3.7
1969	1,366	27.9	3,575	7.7	3.6
1970	1,481	29.5	3,708	8.0	3.6
1971	1,484	28.8	3,751	7.9	3.7
1972	1,529	29.0	3,441	7.1	4.1
1973	1,527	28.1	3,219	6.6	4.3
1974[a]	1,479	26.9	3,352	6.8	4.0
1975	1,513	27.1	3,838	7.7	3.5
1976	1,617	27.9	3,560	7.1	3.9
1977	1,637	28.2	3,540	7.0	4.0
1978	1,622	27.5	3,523	6.9	4.0
1979[a]	1,722	27.8	3,581	6.9	4.0
1980	1,826	28.9	4,195	8.0	3.6
1981	1,972	30.8	4,670	8.8	3.5

Source: Bureau of the Census, "Money Income and Poverty Status of Families and Persons in the United States: 1981, Advance Data from the March Current Population Survey," *Current Population Reports*, Series P-60, No. 134, July 1982, Table 15.

[a] Methodology revised in 1966, 1974 and 1979.

- The larger the family, the higher the probability of being in poverty. Among childless black families, 16.4 percent are in poverty. Among those with five or more children, 74.3 percent are in poverty. Comparable figures for white families are 5.0 and 34.7 percent.
- The higher the completed schooling of the householder, the less likely it is that a family will be poor. Forty percent are poor among black families headed by a householder with no more than three years of high school. The proportion falls to 26 percent in families of a householder whose schooling ended with a high school diploma and 12 percent where the householder has some college training. The chances of a black family's being poor in the latter case (12.4 percent) are equivalent to those of a white family whose householder has only eight years of elementary school education (12.3 percent).
- For both black and white families, the higher the occupational status of the householder, the lower the poverty rate. However, within occupational categories, poverty rates are markedly higher for black than for white families. This is particularly true for clerical workers (14.9 percent for black families versus 5.0 for whites) and farmers (50.0 to 28.3 percent).

In sum, the probability of being poor is considerably greater for blacks than for whites,even controlling for selected socioeconomic and demographic variables. Blacks are not poor simply because they have larger families on average, or are less educated and likely to be in the less prestigious occupations. Within each category of these variables, blacks are much more likely to be poor than are whites.

Has there been any improvement in the past two decades? In 1959, when poverty statistics were first computed, 48 percent of black families were classified as poor (Table 13). The rate was down to 35.5 percent in 1966 and dropped steadily to a low of 26.9 percent in 1974, followed by some years of fluctuation. The 1981 level (30.8 percent) is the highest recorded since 1967. The progress of the 1960s and early 1970s was obviously temporary.

Similarly, as Table 13 shows, there has been absolutely no progress toward catching up with whites. For the past 15 years, black families have been three-and-a-half to more than four times as likely as white families to be truly poor, even higher than the differential in 1959 (3.2).

The impact on welfare use is predictable. Nearly one of every five blacks is on welfare, according to figures derived from a spring 1982 study of the nation's largest cash welfare program, Aid to Families with Dependent Children.[69] This study also indicates that some 40 percent of all black families with children under 18 are getting AFDC benefits, compared to 6.8 percent of white families with children.

Examining the various dimensions of black's socioeconomic status in the early 1980s leads to a striking conclusion: on the non-monetary side, that is, in education and occupation, blacks have made significant progress in the past two decades; on the monetary side—income—blacks have made no gains and indeed appear to be falling somewhat behind in their quest for equality.

The Future of Black America

Is there enough evidence of black progress to realistically expect parity with whites perhaps by the end of the century? The picture is rosy for education, but when one considers the mixed record on fertility and occupation and the dismal record on mortality rates and income, it becomes clear that a major move by American blacks into mainstream middle-class America is not imminent. To be sure, a black middle class is emerging, but it remains a minority of the black population and is far less affluent than the white middle class. Indeed, it has been labeled a "second-class middle class" by one scholar.[70]

Blacks are approaching the norm in demographic behavior, particularly in migration and overall fertility, although teenage and out-of-wedlock childbearing, mortality, and health remain troublesome areas. Blacks are nearing the median range in educational attainment, though more progress is needed. Blacks are entering the white-collar occupations, though at lower levels than whites. Yet all these gains do not yield equality if the overall system still presents barriers to realizing this goal. To better appreciate the factors that can help or hinder black advancement, one must look at broad societal issues over which blacks have little control. Three such areas are worth particular study: the impact of the baby bust, the current administration's socioeconomic policy, and current immigration levels.

Baby bust generation's bright prospects

The 33 million children born in the 1970s will probably be the smallest U. S. birth cohort in the second half of the 20th century. They follow the massive baby boom cohort and will precede the "echo" cohort produced by the baby boom generation as it reaches childbearing ages. Proportionately, the number ready for the business and professional stage of the life cycle in the late 1990s will be small. In a recent article entitled "Don't Forget the Children," Alan Pifer observed:

> "Every child alive today or born in the years just ahead, whether male, female, black,

> white, Hispanic or otherwise, will be a scarce resource and a precious asset as an adult in the early part of the next century. At that time, the nation's standard of living, its capacity to defend itself—perhaps its very viability as nation—will be almost wholly dependent on the small contingent of men and women who are today's children."

He went on:

> "Many educators believe the nation cannot afford to waste any of this potential talent. It would be wise for society to insure that this generation of the 1970s and the 1980s receives the very best education possible to train them for their adult responsibility."[71]

Included in this "precious" generation are today's young black children and those about to be born. If they are to share the bright prospects of the baby bust generation and its critical role in America's future, they, too, must receive the training appropriate for the emerging technological society.

Current socioeconomic policy

Unfortunately, the policies of the current administration in Washington dampen this possibility. Recent cutbacks in educational assistance and the emerging laissez-faire philosophy are likely to delay further educational and occupational advancement for black Americans.

For blacks (as well as others), the current administration's dramatic reversal on economic policy has already created problems. Furthermore, this new economic policy is accompanied by a sharp shift in government attitudes toward civil rights which will significantly reduce its role in the support and protection of equal opportunity.

The most important question for black Americans is the potential impact of Reaganomics on black employment and income. Wharton School professor Bernard Anderson recently warned that "black unemployment can be expected to rise, and black income to fall significantly during the course of the current recession." He added:

Harold M. Lambert

Black children of the 1970s baby bust generation need appropriate training if they are to share in that generation's bright prospects.

> "The near term prospects for black income and employment are not good, but even beyond that there is still a question about the potential impact of the new economic policy on black economic progress, even if the policy eventually works as intended. . . . There is no assurance that the job creations that might emerge from current policies will help narrow the employment gap between black and other workers, but it is almost certain that broad budget cuts for social programs will greatly reduce the opportunities for the disadvantaged to become prepared to make a productive contribution to society."[72]

If no major changes in social and economic policies transpire before the end of the 1980s, blacks will be unprepared to seize the bright opportunity created by the baby bust phenomenon.

Competing with immigrants

Blacks are also affected more than any other U. S. group by the massive increase in immigration since the mid-1970s. The surge of legal and illegal immigrants and refugees, no longer white Europeans but primarily Hispanics and Asians, ironically presents new competition for black Americans just as they have finally begun to edge up the socioeconomic ladder.

Observers disagree on how massive immigration will affect the U. S. job market over the long run. Some economists argue that the newcomers will create more jobs than they take over. Others are convinced that curtailing illegal immigration would greatly alleviate U. S. unemployment. Testifying to the House Subcommittee on Immigration in April 1982, Under-Secretary of Labor Malcolm Lovell declared:

> "While it is impossible to quantify the impact of illegal immigration on U. S. workers, the laws of supply and demand dictate the direction of its effects on low-skilled American workers. To an unknown extent, illegal immigration depresses the wages and working conditions of competing low-skilled workers in their country of destination, and reduces their employment opportunities."[73]

Whatever the long-term impact on U.S. minorities, it is clear that right now the masses of new immigrants are taking jobs away from disadvantaged blacks, particularly black teenagers. Furthermore, it cannot be argued that U. S. blacks and whites shun the kinds of jobs that illegal immigrants typically fill. Under-Secretary Lovell further noted:

> "In 1981, close to 30 percent of all workers employed in this country—some 29 million people—were holding down the kinds of low-skilled industrial, service, and agricultural jobs in which illegal aliens typically find employment. In addition, it cannot be claimed that Americans will not take low-wage jobs. In 1981, an estimated 10.5 million workers were employed at or below the minimum wage."

The traditional pattern of upward mobility in the U. S. had been for the last-arrived white immigrant group to be boosted up the ladder as the next similar group entered the country. Thus, the Irish moved up when the Italians arrived to fill the bottom-level jobs. Similarly, blacks from the rural South took over the least desirable jobs when they entered the industrial North.

Today an interesting paradox is emerging. Under the traditional "American way," blacks should welcome illegal immigrants who presumably are assuming the least desirable jobs and making possible their move up the ladder. But blacks have never been part of the majority society and moving up is a more complex challenge for them than it was for earlier white immigrant groups. Instead, the newest immigrants, particularly those here illegally, are competing directly with a majority of black Americans for those least desirable jobs. At the same time, many other blacks, acting as did the earlier "New Americans," are refusing to take those low-paying jobs and being criticized for it. How this will be resolved remains to be seen. Perhaps if better educational facilities were made available to them, blacks would readily yield the bottom-level,if necessary, jobs to the latest arrivals. However, any long-term continuation of current socioeconomic policies would make such progress impossible.

Much of the sociological literature has stagnated in its examination of black life. This is partly due to social scientists' inability to resolve a fundamental conceptual issue: Is the black experience different from that of whites in the context of American social organization? If so, has this meant that the paths that blacks have been permitted to follow in their pursuit of progress have necessarily been different? If the avenues available for black mobility and progress are indeed different because of structural and social barriers, then the ultimate achievement must be different—hence, the concept "second-class middle class." This concept in no way reflects upon the abilities of the black middle class but recognizes the barriers that still hinder its functioning.

This leads us to the underclass notion. The black underclass has not been created by individuals any more than in other societies. The underclass is a real, existing class in current capitalist development. It is not a "limited lumpen" class, nor is it "surplus" in the Marxist sense. It is a class created by structural and social barriers to improvement or mobility. For example, blacks have often been the first fired in the current recession because they were the last hired and many will not be rehired because their jobs are being eliminated as the U. S. shifts from traditional industry to the high-technology age. Lacking the skills to meet the demands of the changing job market, their future as viable workers is in doubt. This threatens to produce an even larger and more permanent underclass within the black population. It is this which needs immediate and *urgent* attention if blacks are to join the mainstream of American society.

At the outset of this *Bulletin*, it was asked: "Is the Negro still a liability or an opportunity for America?" The jury is still out, but the options are obvious. The United States *needs* all the qualified people it can train for the foreseeable future. The United States has an unlimited potential of future residents to fill the still needed low-level positions in its socioeconomic system. The acceptance of blacks into the mainstream would appear to be the logical route to follow. The alternative option would maintain the status quo, with a few black Americans "making it" while the majority remain at the bottom of the ladder, competing ever more fiercely with new immigrants. America is indeed free to choose whether the Negro should remain its liability or its opportunity. Myrdal's words written in 1944 remain true today. □

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Third World Family Planning Programs: Measuring the Costs

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Abstract—This *Bulletin* explains and demonstrates the use of cost-benefit analysis (CBA) and cost-effectiveness analysis (CEA) in evaluating Third World family planning programs. CBA, which aids decisions on alternate uses of investment funds, e.g., family planning versus new schools, helped convince Third World governments to adopt family planning programs as of economic value in overall development. CEA is a technique which can show which family planning delivery systems work best for the money expended as measured, e.g., by cost per acceptor, per "couple-year of protection" against the risk of pregnancy, or per birth averted. This is increasingly necessary in the 1980s as funds for family planning are being pinched in both developing and donor countries at the same time that it is estimated that annual expenditures on family planning in the Third World must rise from the current $1 billion to $64 billion by the year 2000 if the developing world's population is to be eventually stabilized. Following a general description of the two techniques, nine case studies set in Brazil, Colombia, Ghana, Haiti, India, Thailand, and Zaire are presented to demonstrate what cost-effectiveness analysis has revealed about such issues as integration of family planning with health services, use of paramedical staff and community-based distribution to promote contraceptive use, and important factors to include to ensure comparability of findings. Such studies have already aided family planning program decisions and today's cost considerations and limited funds make cost-effectiveness analysis of alternative delivery systems almost imperative. The authors point to several ways that cost-effectiveness analysis can be improved in practice to make it most useful.

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Third World Family Planning Programs: Measuring the Costs

By Nancy Yinger, Richard Osborn, David Salkever, and Ismail Sirageldin

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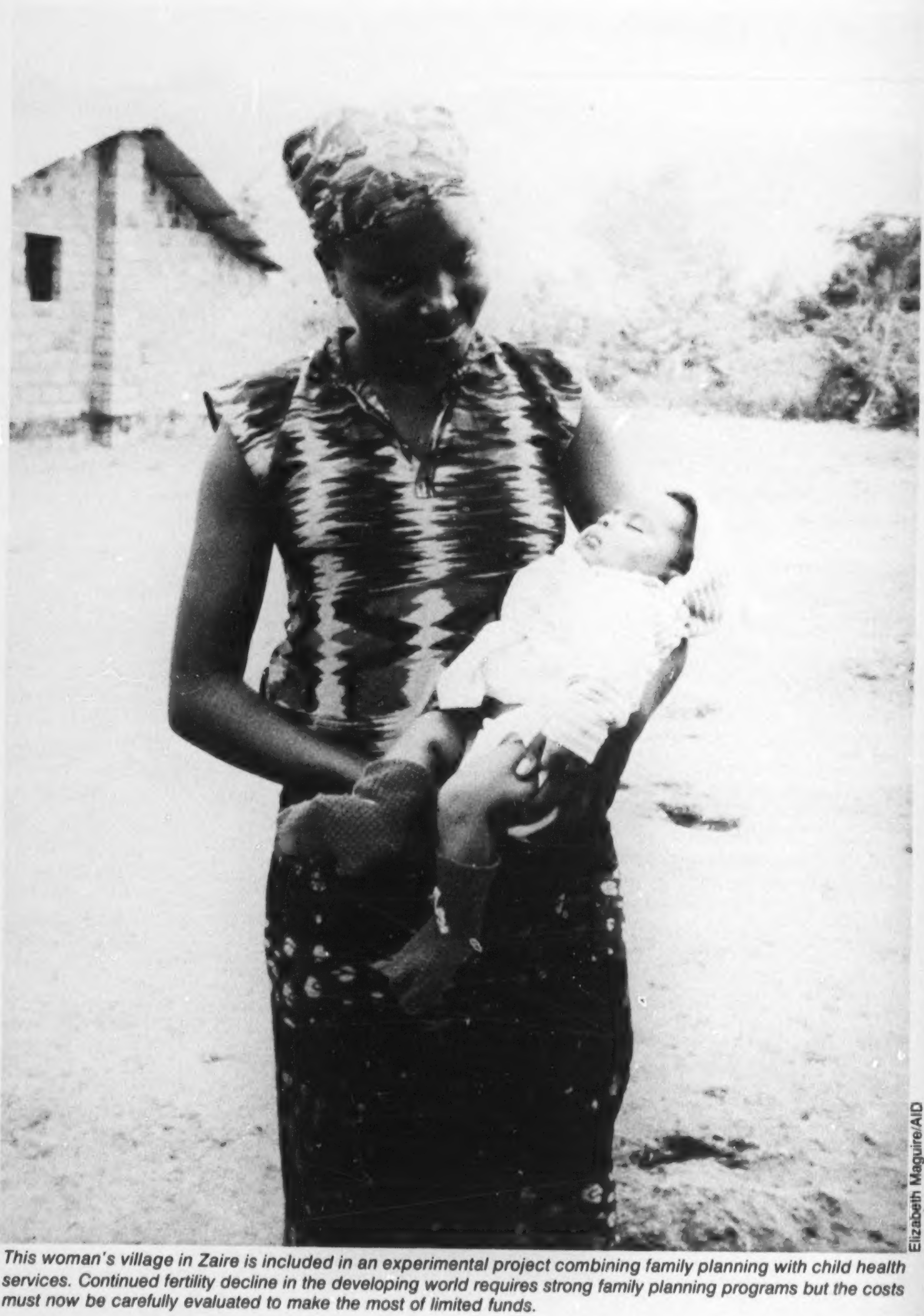

Elizabeth Maguire/AID

This woman's village in Zaire is included in an experimental project combining family planning with child health services. Continued fertility decline in the developing world requires strong family planning programs but the costs must now be carefully evaluated to make the most of limited funds.

Third World Family Planning Programs: Measuring the Costs

By **Nancy Yinger, Richard Osborn, David Salkever, and Ismail Sirageldin**
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This Population Bulletin *is based on papers presented at the International Workshop on Cost-Effectiveness Analysis and Cost-Benefit Analysis in Family Planning Programs, held August 17-20, 1981, in St. Michaels, Maryland, which was organized by the Population Center of The Johns Hopkins University, with support from the U.S. Agency for International Development. The complete workshop papers and a summary of the workshop discussion appear in Ismail Sirageldin, David Salkever, and Richard Osborn (eds.),* Evaluating Population Programs: International Experience with CEA/CBA *(Baltimore: Population Center, The Johns Hopkins University School of Hygiene and Public Health, 1982).*

It is now well known that the world's population growth rate has turned a corner and begun to decline. As highlighted in the United Nations Fund for Population Activities report on *The State of World Population 1982,* the global growth rate has fallen from a peak of nearly 2 percent in the mid-1960s to a current annual rate of about 1.7 percent.[1] Some of this decline is due to a slowdown in mortality decline, but most is accounted for by falling fertility. Between 1965-70 and 1975-80, the global birth rate fell 14 percent. More significantly, birth rates fell by an average of over 16 percent in the less developed countries which now contain three-quarters of the world's population. China, with 30 percent of the developing world's population in 1982 and a 34 percent fertility decline during this period, accounts for a large part of the decline. But birth rates fell 15 to 25 percent in other Asian and Latin American countries with another 30 percent of the developing world's peoples, according to the report. Birth rates have remained virtually unchanged in sub-Saharan Africa and actually rose during this period in two of the most populous countries of the region, Kenya and Uganda.

The UNFPA credits national family planning programs with strengthening the decline in fertility. By 1982, 39 less developed countries supported family planning programs in an effort to reduce population growth rates.[2] These 39 cover 78 percent of the developing world's population and include 11 of the world's

Table 1. World's 20 Most Populous Countries in 1982 and Their Support for Developing Country Family Planning Programs

Population rank	Country	1982 population (in millions)	Percent 1982 world population (4,585 million)	Support for family planning in LDCs[a]	
				Support[b]	Year adopted
1	China	1,000.0	21.8	A	1962
2	India	713.8	15.6	A	1952
3	Soviet Union	270.0	5.9	—	
4	United States	232.0	5.1	Donor	
5	Indonesia	151.3	3.3	A	1968
6	Brazil	127.7	2.8	B	1974
7	Japan	118.6	2.6	Donor	
8	Bangladesh	93.3	2.0	A	1971
9	Pakistan	93.0	2.0	A	1960
10	Nigeria	83.2	1.8	B	1970
11	Mexico	71.3	1.6	A	1974
12	West Germany	61.7	1.3	Donor	
13	Italy	57.4	1.2	—	
14	Vietnam	56.6	1.2	A	1977
15	United Kingdom	56.1	1.2	Donor	
16	France	54.2	1.2	—	
17	Philippines	51.6	1.1	A	1970
18	Thailand	49.8	1.1	A	1970
19	Turkey	47.7	1.0	A	1965
20	Egypt	44.8	1.0	A	1965

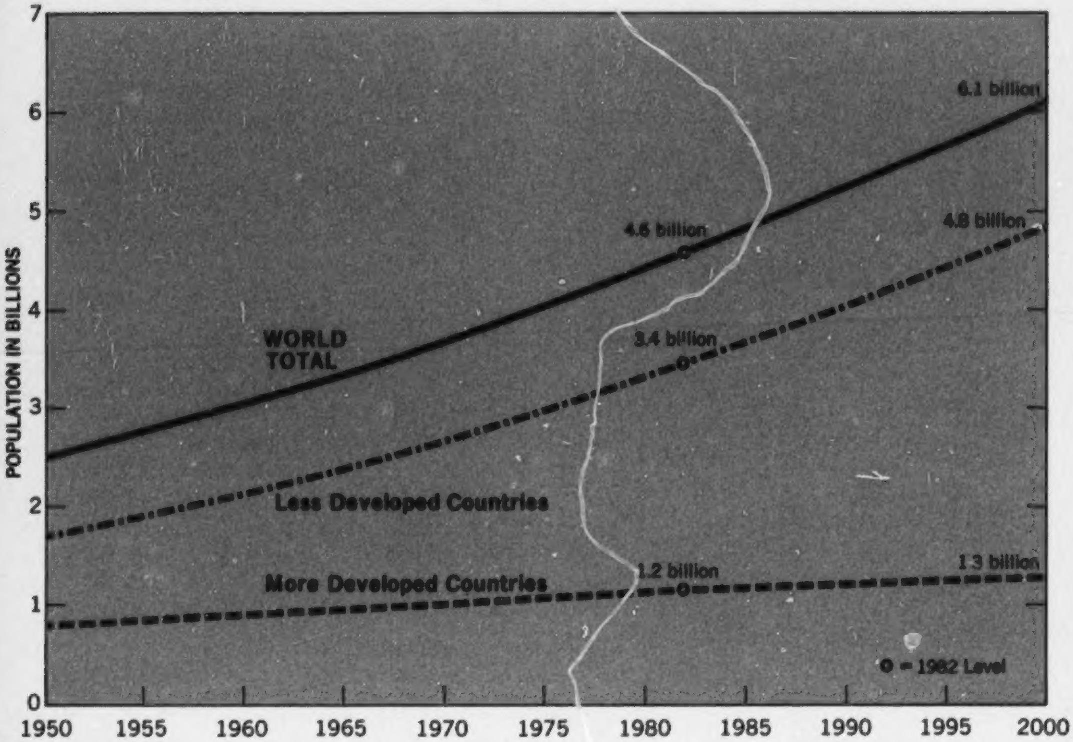
Sources: 1982 population: Population Reference Bureau, *1982 World Population Data Sheet* (Washington, D.C.: 1982); Family planning support: Dorothy L. Nortman, *Population and Family Planning Programs: A Compendium of Data Through 1981*, 11th edition (New York: The Population Council, 1982) Table 6; and United Nations Fund for Population Activities, *Population Programmes and Projects*, Vol. 1, *Guide to Sources of International Population Assistance 1982* (New York: 1982).

[a] LDCs = less developed countries.
[b] A = Official support of family planning activities to reduce population growth rate.
B = Official support of family planning activities for other than demographic reasons.

20 most populous nations, as seen in Table 1. Seven of the "top 20" are developed countries, and the other two, Brazil and Nigeria, are among the 33 countries with another 16 percent of the developing world population who support family planning activities for health reasons and as a human right if not to reduce fertility. Only 6 percent of the people in less developed countries live under governments that neither aim to reduce fertility nor support family planning programs.[3]

The United Nations in its "medium variant" projections currently expects world population to grow from 4.6 billion in 1982 to 6.1 billion in the year 2000, with the growth rate declining from 1.7 to 1.5 percent overall and from 2.1 percent to 1.8 percent in developing countries.[4] (See Figure 1.) To bring about even this modest slowdown in growth, it is assumed that family planning programs will continue to help hasten the fertility decline. Funding for family planning, however, is increasingly a problem. Two-thirds of the funding for family planning activities in less developed countries has been supplied from the countries themselves. The rest has come from inter-

Figure 1. Figure 1. World Population Growth, 1950-2000



Source: United Nations, *World Population Prospects as Assessed in 1980*, Population Studies No. 78 (New York: 1981).

national aid. Both sources are now being pinched and family planning programs will increasingly have to compete with other important development projects for funding. The funds that are available need to be used in the most efficient way possible. To address this issue, the Population Center of The Johns Hopkins University, with support from the U.S. Agency for International Development, convened the International Workshop on Cost-Effectiveness Analysis and Cost-Benefit Analysis in Family Planning Programs. Held August 17-20, 1981, in St. Michaels, Maryland, the workshop examined cost-effectiveness and cost-benefit analysis techniques as applied to family planning—both the "state of the art" of the two techniques and results from their use in evaluating family planning programs in all three regions of the developing world—Africa, Asia, and Latin America. This *Bulletin* summarizes the findings of that workshop.

Cost-benefit analysis and cost-effectiveness analysis are used as tools to help decisionmakers choose among investment opportunities in different sectors (e.g., family planning versus building schools) and within one "sector" such as family planning, to choose which program works best for the money expended. These techniques are conceptually grounded in "welfare economics" and are certainly not restricted to family planning programs. In this *Bulletin* we provide a general introduction to the techniques, explain how they can be applied to family planning programs, and then present what has been learned about different program designs by their use. Readers who are

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interested in the theoretical underpinnings of the two techniques are referred to the full set of workshop papers* and references in the Selected Bibliography (page 35).

We begin with a brief overview of how Third World family planning programs have developed and more on current funding problems.

Development of Family Planning Programs

Family planning services were first introduced in developing countries in the 1940s and 1950s by private physicians and private groups to self-motivated women. Although India began providing official family planning services in 1952, governments generally held off until the late 1950s and 1960s when the impact of rapid population growth on socioeconomic development became a source of concern. Governmental commitment has been strongest in Asia, where higher population densities combined with weaker political and religious objections contributed to a more rapid adoption of official family planning programs. In general, family planning programs were adopted earlier in countries that could afford censuses and surveys to collect data that revealed the impact of rapid population growth. Not surprisingly, more middle-income than low-income developing countries have well established government programs.[5]

The first government programs were patterned on the delivery systems of the private groups. Administration of programs was assigned to health ministries and services were delivered through clinics, though usually in a network separate from health care clinics. Since fertility rates did not fall with such programs, partly because relatively few women came to the clinics and dropout rates were high, activities were expanded in the late 1960s and early 1970s to include information, motivation, and followup programs.[6]

The slowness of fertility decline in countries where family planning programs were adopted early also spawned the argument that socioeconomic development is more important than family planning services in reducing fertility. The argument rose to a peak at the 1974 World Population Year Conference in Bucharest, where a leading slogan was: "Development is the best contraceptive." People in poor countries have rational reasons for wanting large families and this will only change, it was contended, as countries "modernize," as evidenced by increasing urbanization, lower infant mortality, and higher levels of life expectancy, education, and income per capita. Family planning programs alone cannot reduce fertility, it was argued.

This debate has been largely resolved in the eight years since Bucharest. Research by Population Council demographers Parker Mauldin and Bernard Berelson, for example, has shown that fertility tends to drop fastest in countries with *both* relatively high socioeconomic development that helps create a demand for family planning *and* strong family planning programs to meet the demand.[7] However, Mauldin and Berelson also found that family planning programs "have a significant, independent effect over and above the effect of socioeconomic development." Also, China's rapid fertility decline, for example, has been achieved with a strong "birth planning" program despite a mostly low level of development. This suggests that broad-based family planning activities can increase the demand for contraceptives and thus speed fertility decline in the absence of more rapid development than is now possible.[8] For example, a community-based program to distribute contraceptives to women in their homes

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*Ismail Sirageldin, David Salkever, and Richard Osborn (eds.), *Evaluating Population Programs: International Experience with CEA/CBA* (Baltimore: Population Center, The Johns Hopkins University School of Hygiene and Public Health, 1982).

World Bank

Discussing family planning in India, where the Third World's first government program began in 1952.

might be designed to meet the unmet demand for contraceptives which is assumed to exist among, say, 30 percent of married women of childbearing age. However, to achieve a birth rate as low as 20 per 1,000 population takes consistent use of effective contraceptives by some 65 percent of eligible women (along with an increase in age at marriage).[9] Arriving at this level of contraceptive use requires a complex, effective package of family planning delivery, preferably backed up by social change to maximize the probability of fertility decline.

To further this effort, experimental programs have been set up all around the world to test a variety of family planning delivery systems, for example, different mixes of personnel combining traditional health practitioners and lay workers, family planning services integrated with health services, clinics combined with community-based contraceptive distribution, mass media campaigns to increase awareness and knowledge of family planning, and incentives to family planning acceptors.[10] Similar village sites are selected and compared before and after different delivery systems have been put into operation. (Usually comparisons also include a control site where no new delivery system was introduced.) Cost analyses, especially cost-effectiveness techniques, are essential components of this experimental process since they provide a way of organizing the analysis and tie together a project's result with its cost.

Current funding problems

Joseph Speidel of the U.S. Agency for International Development has estimated that to increase the proportion of married women aged 15-49 using contraceptives in less developed countries from the 20 percent level of the early 1980s to the 80 percent level needed for eventual population stabilization, an investment of $4 billion a year would be required immediately—four times the current level.[11] Of this, $1.8 billion would have to come from international donor sources, assuming the same ratio of domestic to donor funds that has existed in the past. By the year 2000 when women of childbearing age in developing countries will almost have doubled in number, maintaining the 80 percent contraceptive-use rate would require $64 billion per year. Speidel's figures, based on assumptions about cost per user, population growth, and inflation, serve to illustrate the magnitude of the funding required. The need for funds to achieve demographic goals is increasing while sources are either shrinking or failing to grow at the same rate. For example, in the United States, the Office of Management and Budget in December 1981 recommended elimination of all international population aid for fiscal year 1983. Although this decision was reversed, the U.S. Agency for International Development's request for population assistance in fiscal year 1983 was first cut to $201 million and then to $206 million—down from $211 million in FY 1982, a level which some analysts say is already $100 to $150 million too low to meet current needs for U.S funds.[12] (Because Congress failed in 1982 to pass an appropriations bill for foreign aid, in which population assistance is included, actual FY 1983 funding for international population aid continued at the $211 million level under an omnibus "continuing resolution.")

Such donor cuts mean that developing countries must assume a still larger share of the cost of all development activities. At the same time, there is an increasing demand that population programs should be shown to be economically justifiable and financially accountable. This is in contrast to the 1970s when international funding proliferated and the emphasis in developing countries was on results, not costs.[13] Population planners must now focus on both results (benefits) and costs as family planning programs are forced to compete for funding allocations on sound economic grounds with other development activities. Determining costs will require much more use of cost-benefit analysis (CBA) and cost-effectiveness analysis (CEA).

CBA and CEA: General Definitions

Cost-benefit analysis is a process for analyzing alternative decisions about uses of resources to produce benefits. If the decision is concerned with only one project, whose design is assumed to be sufficient to achieve its goals, then the project should be accepted only if its expected benefit exceeds its costs. If several projects are being compared, then the one with the biggest net benefit (benefit minus cost) should be chosen.

In cost-benefit analysis (CBA), both the costs and the benefits must be expressed in monetary terms. Costs are normally expressed in monetary terms: salaries, clinic construction costs, prices of contraceptives, training costs, etc. Benefits, however, are not easily expressed in monetary terms, particularly the benefits of family planning, health, or education programs. Evaluation in monetary terms of a birth averted by a family planning program is not a simple straightforward process and has been approached in several different ways, as we shall see.

Cost-effectiveness analysis (CEA) is a modification of cost-benefit analysis which avoids the problems of assigning a monetary value to the benefit, but which also has a more narrow use. CEA compares monetized costs with non-monetized output (benefits) and derives a ratio—cost per contraceptive acceptor, or cost per birth averted. CEA is more limited in scope because it does not assess the overall worth of achieving the program objective, exactly what CBA is designed to do. Instead, CEA is designed merely to compare alternative ways of achieving that objective. Furthermore, since CBA monetizes all benefits and costs, it can be used to compare very different types of programs (e.g., family planning versus water resources); thus it can be used for decisions on whether funds should be allocated to one sector or another. In contrast, because cost-effectiveness analysis deals with monetized costs and non-monetized benefits, it can only be used for allocation decisions within one sector. For example, since cost per birth averted cannot be compared to cost per additional year of life expectancy, CEA cannot be used to choose between family planning programs and health programs aimed at reducing illness and mortality in the population.

With the general definitions in mind, we now present in more detail how CBA and CEA are applied to family planning programs. Although most of the emphasis is on cost-effectiveness analysis—the country studies presented below all rely on CEA—we begin with a brief discussion of cost-benefit analysis.

Cost-Benefit Analysis

During the 1960s CBA was often used to support arguments about the efficacy of family planning programs for the developing world. The effect was to help create the political will necessary for the adoption of family planning efforts by showing that such programs could be thought of in comparable economic terms with other development projects. Obviously family planning has been adopted on a wide scale, by governments if not by couples, and CBA probably contributed to the process which led to that result.

Benefits in CBA

In family planning programs, the intended ultimate output, or benefit, is reduction in the number of births. For CBA there are two commonly used techniques to evaluate the benefit of these averted births in monetary terms. The first is the growth model approach developed in the 1950s by Ansley Coale and Edgar Hoover of Princeton University which involves the construction of a macroeconomic growth model which is then used to measure the effects of reduced population growth rates on per capita income.[14] This model shows essentially that reduced population growth increases per capita Gross National Product (or income per capita) both because a country's national product is divided among fewer consumers and because it is easier to divert part of current output from consumption to net additions to the capital stock.

The second approach, based on the work of Stephen Enke, is the human investment approach. In its simplest form, this approach computes the monetary value of each birth averted as the present value of what the additional child would "consume" over his/her lifetime (e.g., in food, health care, etc.) minus the present value of what he/she could be expected to produce over a lifetime.

An extended version of the human investment approach was developed by George Zaidan of the World Bank. Besides the present value of the unborn child's expected consumption, this takes into account government savings on educational expenses for that child plus the fact that workers in the existing population would produce more per dollar paid to them because, with fewer people being born, more public funds will have been available to invest in the health and education of each of them prior to their joining the labor force (see Box 1, page 10).

Defining the costs

To compute net benefits, these monetary benefit measures must be reduced by the costs of program implementation. Box 2 (page 11) lists the program costs which need to be included. For an accurate analysis, cost calculations need to be comprehensive and include not only direct field costs like salaries, building construction, or rent and travel, but also research costs, the cost of donated contraceptives, and volunteers' time.

The discount rate

Since program costs and benefits can

Box 1. Human Investment Approach to Cost-Benefit Analysis of Family Planning Programs: Zaidan

$$B = \sum_i \frac{Con_i}{(1+r)^i} + P \sum_{\substack{i \\ i\leq j}} \sum_j \frac{Ed_j}{(1+r)^j} + k.h. \sum_i fi \frac{Con_i}{(1+r)^i}$$

$$\text{Benefits} = \left[\begin{array}{c}\textit{Present value}\\ \textit{of future}\\ \textit{expected}\\ \textit{consumption}\\ \textit{of}\\ \textit{unborn child}\end{array}\right] + \left[\begin{array}{ccc}\textit{Per dollar} & & \textit{Present value}\\ \textit{yield} & & \textit{of future}\\ \textit{of} & \times & \textit{education costs}\\ \textit{public} & & \textit{for}\\ \textit{investment} & & \textit{unborn child}\end{array}\right]$$

$$+ \left[\begin{array}{ccc}\textit{Productivity} & & \textit{Present value}\\ \textit{increase per} & & \textit{of increased con-}\\ \textit{dollar of} & \times & \textit{sumption of others}\\ \textit{increased} & & \textit{out of expected}\\ \textit{consumption} & & \textit{consumption of}\\ \textit{for others} & & \textit{unborn child}\end{array}\right]$$

$$C = \sum_i \frac{MP_i}{(1+r)^i} + E$$

$$\text{Costs} = \left[\begin{array}{c}\textit{Present value of}\\ \textit{expected addition}\\ \textit{to production}\\ \textit{from the}\\ \textit{labor services}\\ \textit{of the unborn child}\end{array}\right] + \left[\begin{array}{c}\textit{Family}\\ \textit{planning}\\ \textit{program}\\ \textit{expenditures}\end{array}\right]$$

occur over a series of years, and the value of a dollar of benefit (or cost) depends on when it occurs (even if there is no inflation), all benefits and costs occurring in future periods must be expressed as present values. The discount rate is used for this purpose. This is part of the standard formula for computing a project's net benefit (benefits minus costs), shown in Box 3. Discounting facilitates comparison when, for example, the benefits from a program start immediately (consumption savings start with foregone prenatal care and delivery costs) but some of the costs (e.g., foregone output from the labor of that unborn child) do not begin for 10-15 years after the birth was prevented.

The discount rate is the rate at which the present value of a dollar falls over time. Thus if r is the annual rate of discount, the present value of \$1 next year will be $\$\,\frac{1}{1+r}$ and \$1 in 10 years has a present value of $\$\,\frac{1}{(1+r)^{10}}$. The discounted values are added together for every year to get the present value of the whole project.

The arithmetic is straightforward; the harder issue is what discount rate to pick. The choice obviously affects the present values being compared in cost-benefit analysis. Zaidan, in a cost-benefit analysis of family planning in Egypt during the 1960s, argued that the appropriate range for a discount rate is 10-15 percent:

Box 2. Program Costs to be Included in Cost-Benefit and Cost-Effectiveness Analysis of Family Planning Programs

Note: Costs for all items should be broken down as follows:

Total expended per period				Total per year				
				Expended			Budgeted	
Jan.-March	Apr.-June	July-Sept.	Oct.-Dec.	Total	Local	Foreign	Local	Foreign

1. Field staff by category (Medical, paramedical)
   - Wages. Full time
     - Part time
     - Total wages
   - Incentives to staff
   - Total wages + incentives
   - Total hours/days worked
     - Full time
     - Part time
     - Total days/hours worked
   - Volunteers hours/days
2. Payments to clients
   - Number of clients
   - Rate per client
   - Total cost
3. Travel costs + per diem of paid staff
4. Contraceptive supplies per contraceptive type
   - Number of units
   - Cost per unit
   - Total cost per unit
   - Total revenue (sales)
5. Training of field staff
   - Number of persons trained by medical and paramedical staff
   - Cost per person trained
   - Total cost of training
6. Vehicles and equipment
   - Units of equipment by type
     - Number of units
     - Output units (all trips)
     - Cost per output unit
     - Total cost of unit by type
7. Buildings and fixed equipment by type
   - Unit of output (e.g. rental)
   - Cost per output unit
   - Total
8. Cost of administration
9. Cost of analysis and evaluation
10. Cost of research
11. Cost of education and communication
    - Demand generation
    - Material
    - Media by type
    - Other
12. All other items received free
    - Material
    - Equipment
    - Other
13. Consultation
    - Number (person months)
    - Cost per unit
    - Total cost
    - Cost of local time per unit
    - Total local cost
14. Total cost of program inputs

Box 3. Simple Cost-Benefit Calculating Formula

$$\frac{b_1}{(1+r)^1} + \frac{b_2}{(1+r)^2} + \ldots + \frac{b_n}{(1+r)^n} - \frac{C_1}{(1+r)^2} + \frac{C_2}{(1+r)^2} + \ldots + \frac{C_n}{(1+r)^n}$$

$$\text{Net benefit of project} = \left[\begin{array}{c}\textit{Sum of discounted monetary}\\ \textit{value of benefits}\\ \textit{for number of}\\ \textit{years project}\\ \textit{is expected}\\ \textit{to last}\end{array}\right] - \left[\begin{array}{c}\textit{Sum of discounted monetary}\\ \textit{value of costs}\\ \textit{for number of}\\ \textit{years project}\\ \textit{is expected}\\ \textit{to last}\end{array}\right]$$

"In theory the discount rate should be the rate of interest determined by the forces of productivity and thrift in a free capital market. In practice the capital market is imperfect and a multitude of interest rates exists . . . Perhaps the most representative rates are those charged by bankers to medium-sized commercial firms—something on the order of 10 to 15 percent."[15]

This range can be thought of as acceptable lower and upper limits for Egypt in the 1960s.

The results of Zaidan's cost-benefit analysis of family planning in Egypt in the 1960s are presented in Table 2. They show that, according to the decision rule that discounted benefits should exceed discounted costs, this program in Egypt was a good investment. The table further shows that the choice of discount rate does affect the magnitude of the result; net benefits are higher when the lower 10 percent discount rate is used (164-326) than they are using the 15 percent discount rate (91-216). However, in this case, the choice of discount rate does not change the fact that discounted benefits exceed discounted costs.

Cost-Effectiveness Analysis: Contrasts with CBA

Currently more interest is being directed toward CEA than CBA. Program planners and managers are looking for relatively simple analytical techniques that will help them choose among different family planning delivery systems. Cost-effectiveness analysis is such a technique which combines information on the number of clients served or other output measures with cost data. It is applied within the context of a predetermined budget. The question here is: "Which use of the funds, within a given time period, provides the most progress toward a given goal?" CEA assumes that the ultimate program goal, in this case reduced fertility, has already been accepted and thus is applied within this one sector, i.e., family planning.

Table 2. Cost-Benefit of Family Planning in Egypt in 1960s

(Numbers are Egyptian pounds per prevented birth)

Row	Using 10 percent discount rate	Using 15 percent discount rate
Benefits		
1. Consumption	222-351	109-206
2. Wage productivity effect	16-21	9-14
3. Public savings effect	37	24
4. Total	275-409	142-244
Costs		
5. Productivity	79-91	24-31
6. Family planning services	4-20	
7. Total	83-111	28-51
8. Difference between benefits and costs (Row 4 minus row 7)	164-326	91-216
9. Benefit-cost ratios (Row 4/Row 7)	2.5-4.9	2.8-8.7

Source: George C. Zaidan, *The Costs and Benefits of Family Planning Programs*, World Bank Occasional Paper No. 12 (Washington, D.C.: 1971), cited in David Salkever and Ismail Sirageldin, "CB and CE Analysis in Population Programs: Its Role in Program Planning and Management," in Sirageldin et al, *Evaluating Population Programs.*

Cost-effectiveness results are presented as ratios with monetized costs in the numerator and non-monetized benefits in the denominator. (Possible benefits measures include number of family planning acceptors, number of new acceptors, and number of births averted.) This is in obvious contrast to CBA, which, as we have seen, monetizes both costs and benefits.

CEA results can only be interpreted on a comparative basis. To say cost per new acceptor is $30 means little by itself. If cost per new acceptor in program A is $30 for 1979-80 while cost per new acceptor in program B is $12 over the same time period, the results begin to take on meaning. Program A appears to be less cost-effective than program B. (The additional factors which must be taken into account for accurate comparisons are discussed below.) Again, by way of contrast, in CBA a project can be evaluated

Box 4. Calculating Formula for Cost per Acceptor for a Given Time Period t

$$C_i^{a^t} = \frac{C^t}{N_i^{a^t}} = \frac{W_i \cdot H_i + T_i + M_i + F_i}{N_i^{a^1} + N_i^{a^2}}$$

$$\begin{array}{l}\text{Cost per acceptor} \\ \text{per activity i}\end{array} = \left[\begin{array}{c}\textit{Total cost} \\ \textit{per} \\ \textit{activity i}\end{array} \div \begin{array}{c}\textit{Total} \\ \textit{acceptors of} \\ \textit{activity i}\end{array} \right]$$

$$= \left[\begin{array}{c}\textit{Sum of wage rates} \\ \textit{x hours worked,} \\ \textit{transportation} \\ \textit{materials, and} \\ \textit{others costs} \\ \textit{for activity i}\end{array} \div \begin{array}{c}\textit{Acceptors through} \\ \textit{program efforts} \\ \textit{plus} \\ \textit{acceptors through} \\ \textit{indirect program efforts} \\ \textit{of activity i}\end{array} \right]$$

on its own. If its net benefits exceed its net costs, the project should be accepted. Comparisons do come into CBA when there are limited funds for investment or when projects do not overlap, i.e., when they have different goals. The one with the largest net benefit which falls within the allowable budget should be accepted.

Calculating CE ratios: Cost

Box 4 shows how a simple CE ratio, cost per acceptor, would be calculated. In order to get the cost part of the ratio we need to refer back to Box 2 (page 11). The major cost categories are: staff salaries and per diem, payments to clients, if any, travel costs, contraceptives, staff training, client education, vehicles and equipment, buildings, administration, and research and evaluation. An ideal analysis would include all items within these ten categories that apply to the program being evaluated. The costs from all the categories are added together to get the total cost.

Calculating costs seems straightforward, but it is not. (These problems apply to cost-benefit analysis as well as cost-effectiveness analysis.) Some categories are frequently excluded, for example, the value of donated contraceptives and services. The costs of such items should be evaluated at their shadow price, that is, what they would cost if purchased in the market, not at the price the program actually paid, either subsidized or free of charge. There are both practical and theoretical reasons for using the shadow price. First, items may be donated on a temporary basis. For planning future budgetary allocations, realistic CE ratios need to take that into account. Second, if commodities were not being donated to one program they might otherwise be going to another, so there is an "opportunity cost" associated with their use. As we shall see in the country studies below, donated contraceptives are not treated consistently in cost calculations.

A second problem with the cost part of CEA and CBA involves joint costs. In a family planning program which has been integrated into a health care delivery program, how should the costs of buildings be allocated—to health care or family planning? If the same physicians provide services for both programs, how is their time to be charged?

True joint costs arise when services are provided simultaneously, for example, travel time to a village by a health worker who provides both health and family planning services. There is no "correct" cost allocation possible. If different kinds of services are provided at distinctly different times, then a time-budget analysis can aid in the accurate breakdown of costs.

Output or effectiveness measures

Output measures in CEA can be divided into four categories: (1) measures concerning the client population; (2) delivery system activities; (3) operational, or intermediate output measures; and (4) impact measures. The first category includes the area's population or eligible women (usually married women of reproductive age), and the second includes such items as visits or contacts made by staff or quantities of contraceptives distributed. These measures are only loosely related to program impact and thus are rarely used in CEA.

The third category, operational measures, is widely used and includes number of acceptors, number of new acceptors, and number of continuing users of contraceptives distributed by a program. Cost per number of acceptors, a commonly calculated statistic, has serious limitations, as explained by Duff Gillespie of the U.S. Agency for International Development:

> "[Cost per acceptor's] major drawback is that it does not really tell us much about the effectiveness of the delivery system. Acceptors are cumulative. Thus one cannot determine the dynamics of the program for that particular year. . . . Also the measure does not tell us anything about the quality of the outputs in terms of contraceptive behavior. It is difficult to assign an impact value to programs assessed by this method since it does not tell us anything about how acceptance may influence fertility. Finally, one can have a low, i.e., inexpensive, cost ratio with few acceptors if the resources used to gain these acceptors were also low."[16]

The two other denominators in the third category, new acceptors and continuing acceptors, are improvements in that they reflect momentum in the program but otherwise suffer from the same drawbacks. Although relatively easy to calculate, these measures do not directly tie program activity to the ultimate objective, fertility reduction. However, when program targets are expressed in terms of number of acceptors or new acceptors, then cost-effectiveness ratios using such intermediate output measures may have a role in program management.

Measuring the fourth category, the fertility impact of family planning programs, is a complex task. At least eight methods of varying degrees of methodological sophistication are available to analysts. These range from the standardization approach through "couple-years of protection" to multivariate area analysis.[17] Here we focus only on one commonly used technique, Couple-Years of Protection (CYP).

Couple-years of protection. The CYP method is calculated in two steps, using data on contraceptive methods distributed through a program to estimate the resulting reduction in fertility. First, the number of couples protected against the risk of pregnancy during one year by program contraceptives is estimated using an index which takes into account the length of time a couple is likely to be protected by each "application" of a family planning method. It assumes, for example, that 100 condoms distributed in a year will protect one female (or couple) against the risk of conception in that year (assuming sexual intercourse averaging about twice a week), and allows for IUD continuation rates (the number still left in place one and more years after insertion), and for the fact that the fertility effect of sterilization decreases over time as the chances increase that the wife reaches menopause and/or one spouse dies. The second step consists of inferring the number of births averted as a result of that estimate of CYP "prevalent" in a given year. The first step in the CYP calculating formula developed at Columbia University by Samuel Wishik is shown at the top of Box 5.

There are several problems with this method. First, contraception by women of different ages is given equal weight

Box 5

Calculating Formula for Couple-Years of Protection

$$\mathrm{CYP}_n = a_c C_n + (a_{i0} I_n + a_{i1} I_{n-1} + a_{i2} I_{n-2}) + (S_n + a_{S1} S_{n-1} + a_{S2} S_{n-2})$$

where C = number of conventional contraceptives distributed through program, e.g., condoms
I = number of intrauterine devices inserted.
S = sterilizations performed through program.

Source: Samuel M. Wishik and Kwan-Hwa Marnie Chen, *The Couple-Year of Protection Index: A Measure of Family Planning Program Output*, Manuals for Evaluation of Family Planning and Population Programs, No.7 (New York: International Institute for the Study of Human Reproduction, Columbia University, 1973).

Calculating Formula for Standard Couple-Years of Protection

$$\mathrm{SCYP} = \Sigma \left\{ \frac{E_j \left[CCYP_j \left(\frac{100 - P_j}{100} \right) - \left(\frac{NA_j}{12} \right) \right]}{400} \right\}_{ij} + \Sigma \left\{ \frac{E_{si}(total)}{0.4} \times N_{si} \right\}_{is}$$

$$+ \left\{ CCYP_{per\ abortion} \times \left(\frac{E}{400} \right) \times \left(\frac{LBP + 1}{2} \right) \right\}_{ia}$$

$$\text{Standard couple-years of protection} = \left[\begin{array}{c} \text{Protection from} \\ \text{contraceptives} \\ \text{accepted, ex-} \\ \text{cluding sterilizations} \\ \text{and abortions} \end{array} \right] + \left[\begin{array}{c} \text{Protection} \\ \text{from sterili-} \\ \text{zations performed} \end{array} \right] + \left[\begin{array}{c} \text{Protection} \\ \text{from abor-} \\ \text{tions performed} \end{array} \right]$$

where E = expected fertility, taking into account: (1) assumption that acceptors at age i would have had a birth at age i+2; (2) allowance for proportion of first births in the population if acceptance is mainly for termination of fertility rather than birth-spacing; and (3) allowance for reduction in birth rate due to sterility.
P = "penalty" applied for pregnancies, related to the age-specific pregnancy rate for the contraceptive method, expressed as a rate per 100 crude couple-years of protection.
N = number of new acceptors of specific age for a particular contraceptive method during the year.
A = allowance, in months per new acceptor, for overlap between contraceptive use and postpartum amenorrhea.
$E_{si}(total)$ = total future expected fertility of an acceptor of sterilization in age group i.
$CCYP_{per\ abortion}$ = crude CYP per abortion performed.
LBP = live birth proportion.

Source: David Salkever and Ismail Sirageldin, "Cost-Benefit and Cost-Effectiveness Analysis in Population Programs," in Sirageldin et al, *Evaluating Population Programs*, based on Martin Gorosh and David Wolfers, "Standard Couple-Years of Protection," in United Nations, *The Methodology of Measuring the Impact of Family Planning Programmes on Fertility*, Manual IX, Population Studies No. 66 (New York: 1979) Chapter 2.

even though evidence suggests that contraceptive use by women under age 18 is about 17 times more productive in avoiding births than use by women over 43. Second, the physiological state of women at the time of contraceptive acceptance is not included; some women may be in the period immediately following a birth when the chances of getting pregnant are very low (postpartum amenorrhea). Third, the calculation does not take into account the pregnancy rates related to the "use-effectiveness" of different methods. For example, condoms used correctly every time are almost 100 percent effective in preventing pregnancy but in actual practice 10 to 20 percent of couples experience pregnancy within the first year of condom use. Finally, the calculation does not include current fertility levels in the target population, which affects the fertility that can be expected with a family planning program in operation.

The Standard Couple-Years of Protection formula aims at correcting these problems. As seen at the bottom of Box 5, terms are included for expected fertility, the pregnancy rates associated with different contraceptive methods, the age of contraceptive acceptors, and the overlap between contraceptive use and postpartum amenorrhea. This technique requires more data than just program statistics, for example, the birth rate that can be expected among women of different ages and the average duration of postpartum amenorrhea. Although available from many sources, program managers might shy away from a technique requiring such data.

Johns Hopkins demographer Rowland Rider has pointed out that a simple standardization of CYP by age can accomplish almost as much as the sophisticated adjustments necessary for the Standard Couple-Years of Protection calculation.[18] He suggests that dividing CYP into two age groups, under 35 and 35 and over, is sufficient. Separate calculations are done for each age group. The group under age 35 is assigned a weight of 1 and the older group a weight of 0.33 and the two results are summed.

Rider applied his technique to the Rural Community-Based Distribution Program of PROFAMILIA, the private family planning program of Colombia. Before adjustment, the results were as follows:

Unadjusted CYP

	1977	*1980*
Cost	$501,507	$624,299
CYP	34,443	33,382
Cost per CYP	$14.56	$18.70

Ratio 1980/1977 = 1.28

Since here the cost per couple-year of protection in 1980 was 1.28 times that of 1977, one might conclude that the program was 28 percent more efficient in 1977. However, Rider noted that acceptors in 1980 tended to be younger than those of 1977. Applying his adjustment procedure, he found that the unadjusted CYP overestimated the decline in efficiency by 40 percent. The adjusted results were:

Age-Adjusted CYP

	1977	*1980*
CYP(a)	30,981	32,183
Cost per CYP(a)	$16.20	$19.40

Ratio 1980/1977 = 1.20

$$\begin{aligned} 1977\ \mathrm{CYP(a)} &= (\mathrm{CYP})(0.85)(1) + (\mathrm{CYP})(0.15)(.33) \\ &= \mathrm{CYP}(0.8995) \\ 1980\ \mathrm{CYP(a)} &= (\mathrm{CYP})(0.95)(1) + (\mathrm{CYP})(0.05)(.33) \\ &= \mathrm{CYP}(0.9665) \end{aligned}$$

Using age adjustment, the program appears to be only 20 percent more efficient in 1977 than in 1980. Thus, although adjusting for the age distribution did not change the direction of the conclusion, it did show that ignoring the effects of age can lead to misinterpretation.

Substitution

In addition to the age distribution, another factor which could produce misleading CEA results is substitution of program sources of contraception for non-program sources. If many of the new acceptors in a program are merely switching from other sources of contraceptives, such as private physicians, there will be little change in the number of births averted. Not taking substitution explicitly into account could mean the program will register a lot of new acceptors but not produce the expected reduction in fertility. William Reinke of Johns Hopkins suggests in a study of the Narangwal family planning project in India that women in project areas be classified according to contraceptive use before project activities begin.[19] He proposes four groups: non-users should be classified as potential new recruits; previous users of traditional methods (such as rhythm and withdrawal) should be sought by the project as converts to more effective methods; prior users of modern temporary methods such as the pill or condoms should be seen as possible transfers to project services; and sterilized couples should be excluded from the target population.

Reinke's results using this classification scheme have two important implications. Among the experimental groups in his study, the proportions in the four prior-use categories did differ substantially. Program acceptance rates also varied among the four categories. Those in the third category, prior use of modern temporary methods, had the highest program acceptance rates which probably resulted in the least effect on fertility.

By breaking down the target population into prior-use categories, Reinke was able to analyze more carefully the effects of four different experimental service delivery combinations: (1) comprehensive health care for eligible women and children along with family planning services; (2) women's health services combined with family planning; (3) child health care only combined with family planning; and (4) family planning education alone. There was also a control group. He concluded that:

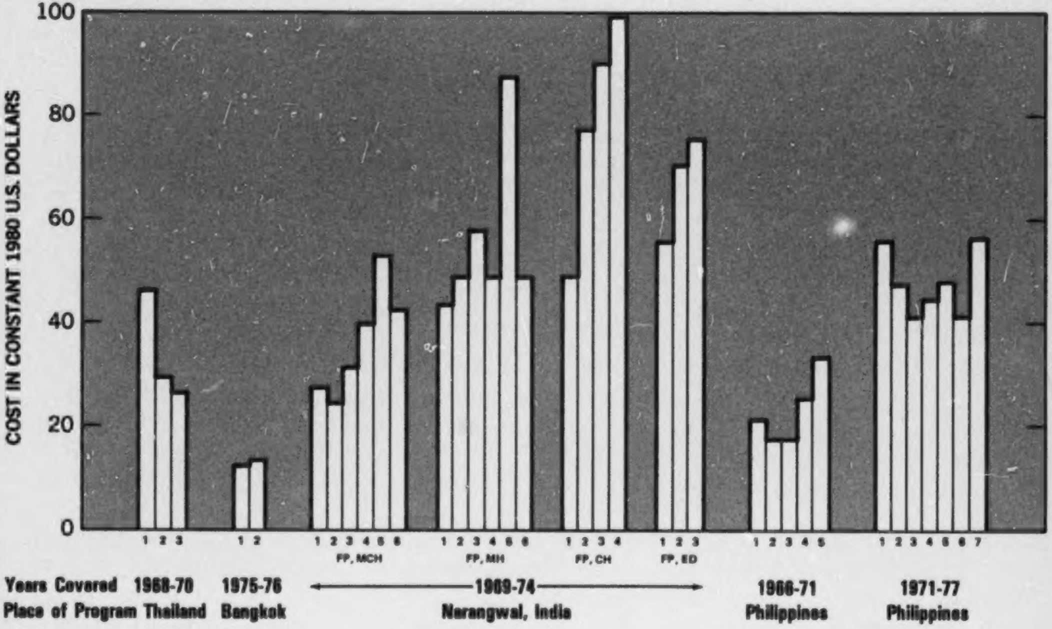
> "Maximum gain in contraceptive effectiveness was obtained in [women's health services with family planning], where the gain was more than twice that of [family planning education alone]. The poorer showing in the latter group was due to a moderately lower current use rate, heavy reliance on the relatively ineffective condom, and an exceptionally high level of prior [contraceptive-use] effectiveness [before the project began]."

Comparing past CEA studies

Duff Gillespie, Maria Mamlouk, and Kwan-Hwa Marnie Chen of the U.S. Agency for International Development have reviewed cost-effectiveness analysis studies of family planning programs published since 1970 in the hope of answering such questions of program planners and policymakers as: How much money must be devoted to family planning to produce specific results? and What type of family planning delivery system is the most cost-effective?[20]

They found a striking variation in the cost-effectiveness ratios calculated for different programs in both cost per new acceptor (Figure 2, page 18) and cost per birth averted (Figure 3, page 19). What guidelines can a program planner derive from previous projects, given such a wide range of results? Aside from general conclusions, for example, that cost per new acceptor tends to rise over time within a project (Figure 2), while cost per birth averted tends to fall (Figure 3), meaningful international comparisons are difficult. Other factors, in addition to all the ones discussed above, which can affect CEA results include the scale of the project, how long it has been in operation, and its setting, for example, whether in an urban or rural area. Gillespie and his colleagues also stress that the vagaries of exchange rates and inflation rates can affect international comparisons of program costs. Results cannot be compared between currencies or over time without making appropriate adjustments, but many analyses fail to do this. However, the message in all these qualifications should not be that previous work can provide no useful information. Instead, the message should be that programs of similar duration and size can be meaningfully compared after a careful

Figure 2. Trends in Cost per New Acceptor for Selected Family Planning Programs



Source: Duff G. Gillespie, Maria E. Mamlouk, and Kwan-Hwa Marnie Chen, "Cost-Effectiveness of Family Planning: Overview of the Literature," in Sirageldin et al, *Evaluating Population Programs.*

examination of output measures, user characteristics, and what costs are included. A planner designing a new program can then develop guidelines for what would be acceptable ratios for the first year of operation. Careful comparisons enable project managers to avoid "reinventing the wheel" by taking advantage of knowledge gained from past failures and successes in the delivery of family planning services.

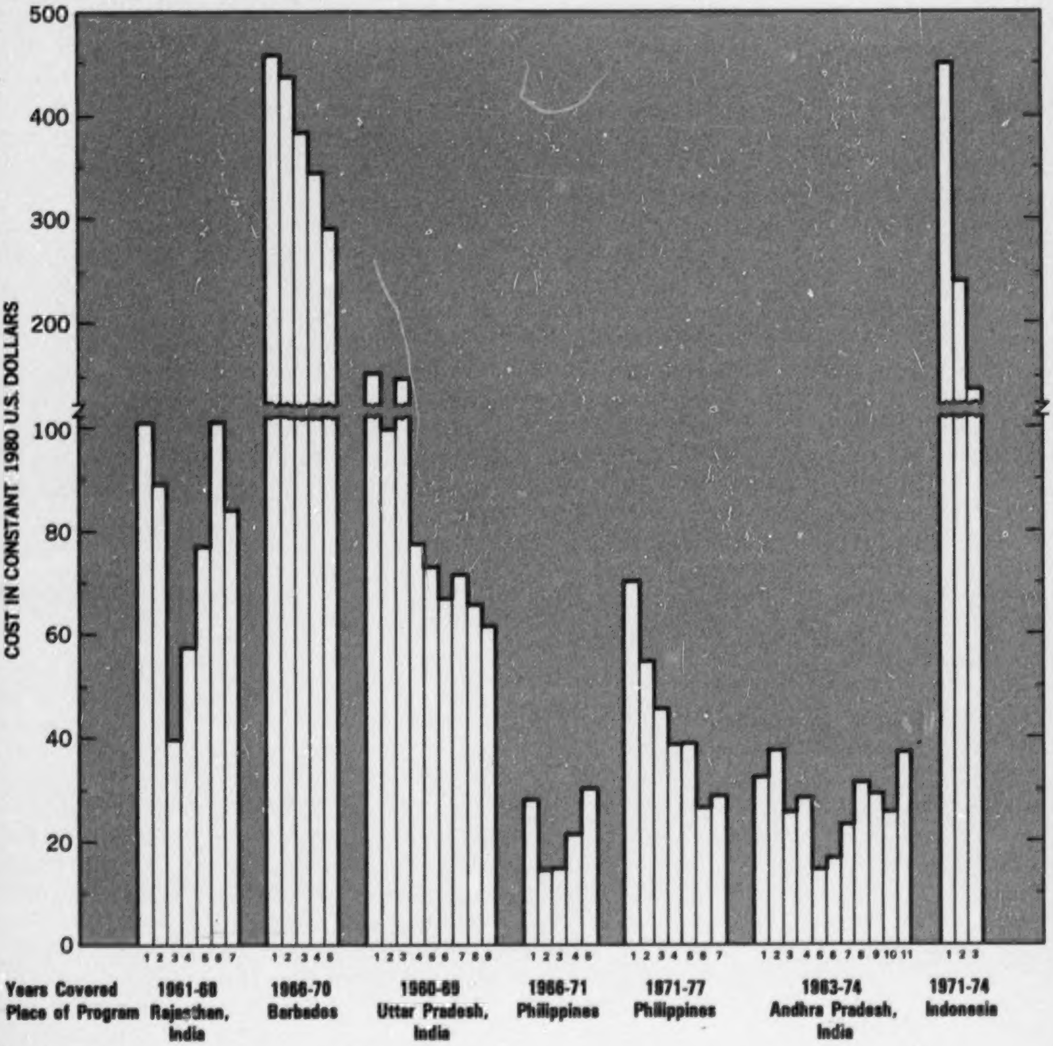
Similar provisos hold for comparisons of differently designed experimental projects within the same country. No one would expect that a successful urban program could be exactly replicated in a rural area; nor should one expect a newly established community-based distribution system to perform as efficiently as an older clinic-based one. (A careful comparison with the clinical program's first year of operation might, however, be in order.)

Facilitating comparisons within one experimental design is the purpose of CEA, and as such, CEA has been used successfully to help decisionmakers choose among delivery systems. Some of the issues that have been examined include: whether paramedical staff can be used effectively; whether integration of family planning within the medical care delivery system is more or less effective in promoting contraceptive use; and whether community-based distribution is feasible and where to locate community distribution centers—in health settings or community centers.

Further CEA issues

We have already indicated that the analyst must make choices about the output measures, types of costs, and other data to be included in a cost-effectiveness analysis. In general, these choices will depend on questions to be answered by the analysis. If the analysis

Figure 3. Trends in Cost per Birth Averted for Selected Family Planning Programs



Source: See Figure 2.

is to be carried out by a program manager to assess staff efficiency, output measures such as numbers of acceptors or numbers of contacts may be sufficient. If the analysis is part of a planning process and involves comparison of different types of pilot projects, output measures more closely related to impact (i.e., births averted) are desirable. Analyses of pilot programs should also generate data on "environmental" characteristics, such as the nature of the population served or the availability of non-project sources of contraceptive supply. This is useful for determining whether the expansion of the pilot project to other locations will be likely to produce similar results. As noted above, the estimated real costs of donated supplies or labor should also be included if a pilot project is to be expanded to settings where this donor support will not be provided.

Equity: Concepts and an example

Before turning to the case studies we want to add one more issue addressed by William Reinke in his cost-effectiveness analysis of India's Narangwal project—the question of equity.[21] This is important because improved social justice and more equitable distribution of income and services are major goals in many less developed countries.

Reinke characterizes programs by inputs provided (IP), intermediate outputs (OP), such as services utilized, and ultimate outcome (OC), or reduction in fertility. Formulating the analytical question in Reinke's terms: "Should the program focus upon ready acceptors, thereby achieving an attractive OP/IP ratio, even if only modest outcomes in [reduced] fertility are forthcoming? Or does a favorable OC/OP ratio justify extra input efforts [directed at certain subpopulations]?"

Reinke identifies two ways in which family planning services may be distributed inequitably. First, the disadvantaged group may receive fewer services for geographical, financial, or political reasons. Second, the disadvantaged may represent a subpopulation which is resistant to the use of services. On the surface it might appear that including such groups could only lower cost-effectiveness. However, even though the disadvantaged may require more effort (IP) to produce a unit of output (OP), that output may result in a greater ultimate outcome (OC) in fertility reduction than is achieved among the advantaged. This could happen if, for instance, new acceptors among the advantaged group have mainly switched from non-program to program contraceptives, or if contraceptive use among the advantaged is already about as high as it is likely to go for the time being.

Reinke stresses that the concept of equity must be made operational in quantitative terms. He offers four possible ways of defining it: (1) "equitable" is considered synonymous with "equal" so that if $1,000 is spent on the advantaged group, $1,000 is also spent on the disadvantaged; (2) allocate inputs in accordance with relative need, for example, if the disadvantaged group is 50 percent further than the advantaged from the program target (a defined lower level of fertility), they should get 50 percent more funding;(3) allocate funds such that the percentage reduction in need by the disadvantaged is equal to that achieved among the advantaged; and (4) allocate inputs so that the resultant distance from the target is equal. The first and fourth are extremes. The first is probably inadequate to achieve much in the way of equitable distribution and the fourth is probably constrained by limited funds (not enough would be available to achieve equalized need) or by political considerations.

Table 3 presents Reinke's numerical example of these four definitions of equity. In his example, the overall target is a reduction in the general fertility rate to 180 births per 1,000 women aged 15-49, with the advantaged group currently at 240 (60 points of "need") and the disadvantaged at 270 (90 points).

The cost-effectiveness ratio of most interest—outcome to inputs (OC/IP)—can be divided into two parts: intermediate outputs to inputs (OP/IP) and outcome to intermediate outputs (OC/OP). In Reinke's example, the result for the advantaged group appears more cost-effective in the first of these. Compare the OP/IP ratio for the advantaged to the same ratio for the disadvantaged under the third strategy:

$$\text{OP/IP (Adv)} = 300 \div 1{,}000 = .3$$
$$\text{OP/IP (Disadv)} = 360 \div 1{,}800 = .2$$

However, the advantaged yield more outcome per unit of intermediate output:

$$\text{OC/OP (Adv)} = 30 \div 300 = .1$$
$$\text{OC/OP (Disadv)} = 45 \div 360 = .125$$

The overall ratio of outcome to inputs shows that services to the advantaged group are slightly more cost-effective:

Table 3. Four Approaches to Achieving Equity in Family Planning Service Delivery: Reinke Example

(Numbers are per 1,000 of target population)

Strategy for inputs between groups	Initial need	IP	OP	OC	Final need
			Advantaged group		
	60	1,000	300	30	30
			Disadvantaged group		
1. Equal	90	1,000	200	25	65
2. Relative to need	90	1,500	300	37.5	52.5
3. Equal percent reduction in need	90	1,800	360	45	45
4. Equalize need	90	2,400	480	60	30

Source: William A. Reinke, "Cost-Effectiveness with Equity: A Review of Narangwal Project Summaries (India)," in Sirageldin et al, *Evaluating Population Programs.*

Note:
Strategy for inputs between groups = See text, p. 20
Initial/Final need = Number of points above target general fertility rate of 180 births per 1,000 women in target population.
IP = Program inputs.
OP = Intermediate outputs = use of project services, e.g., number of pill prescriptions filled.
OC = Ultimate outcome, i.e., point reduction in initial general fertility rate.

OC/IP (Adv) = 30 ÷ 1,000 = .03
OC/IP (Disadv) = 45 ÷ 1,800 = .025

Thus Reinke's method indicates that there probably are tradeoffs between equity and cost-effectiveness of which policymakers should be aware.

Reinke applied this method to the two predominant caste groupings in Narangwal—Jats (high caste) and Scheduled (low) Castes. The baseline survey before the project began found that use of family planning was 50 percent higher among the Jats. Thus special effort was directed toward the Scheduled Castes and the use of project services (intermediate outputs) turned out to be higher within that group:

OP/IP (Jat) = 1.46   OP/IP (Sched) = 1.73

However, the ratios of ultimate outcome to intermediate outputs (OC/OP) and outcome to inputs (OC/IP) were higher for Jats, because women of the Scheduled Castes accepted relatively less effective contraceptives:

	Jats	*Scheduled Castes*
OC/OP	2.095	1.588
OC/IP	.306	.275

Reinke found that the allocation of resources in the Narangwal project, which produced these results, fitted closely with his second definition of equity; extra effort was directed toward disadvantaged groups approximately in proportion to their greater distance from the target fertility level. However, he concludes that there was a tradeoff. If all the money had been spent among Jats, the result would have been 377 births prevented per 1,000 of the target population. Instead, the actual result was 357 births prevented per 1,000 population. Since both fertility reduction and increased equity are important goals and the tradeoff was not very great, he further concludes that the loss in terms of effectiveness was more than compensated by the gain in equity.

After this general description of how cost-effectiveness analysis is applied to family planning programs, we now turn to some examples of what such analysis has revealed about different program designs in different countries.

Table 4. Country Case Studies Presented at Family Planning Evaluation Workshop

Country	Project	Focus	Author(s)
*India	Narangwal	Integration	W. Reinke
*Ghana	DANFA	Integration	S. Blumenfeld
*Colombia	Rural household delivery	Integration	F. Gomez
Guatemala	SINAPS	Integration	J. Townsend
Thailand	Family planning, health and hygiene	Community-based distribution (CBD)	K-H. Chen
*Haiti	Household distribution	CBD	A. Bordes, et al.
*Brazil	BEMFAM/Piaui State	CBD	J. Foreit, et al.
Morocco	Household distribution	CBD	M. Labbock, et al.
*Colombia	PROFAMILIA	National comparison	G. Ojeda, et al.
*India	National family planning program	National comparison	J. K. Satia
*Thailand	Lampang	Cost/task analysis	W. Reinke
Mexico	New strategies	Training costs	H. Elkins and L. Macias
*Zaire	FP/OR project	Pre-project research design	J. Bertrand and N. Mangani

*Papers summarized and discussed in this *Bulletin.*

Source: Country case studies presented at International Workshop on Cost-Effectiveness Analysis and Cost-Benefit Analysis in Family Planning Programs, see Sirageldin et al, *Evaluating Population Programs.*

Applications of Cost-Effectiveness Analysis

The nine country case studies discussed in this *Bulletin* are marked with asterisks in the listing shown in Table 4. All three developing regions are represented—Asia, Africa, and Latin America. The studies range from an overview of India's national family planning program to an assessment of a program serving 30,000 people in Haiti, and the programs covered range in scale from pilot study to fullscale field implementation. Thus, the nine case studies provide a wide array of cost-effectiveness analysis in practice to measure against our theoretical understanding of the technique.

The studies can be grouped into four categories according to the main issue on which they focus: (1) integration of family planning with health care delivery; (2) the feasiblity of community-based distribution of contraceptives and the location of family planning centers; (3) comparisons of different delivery systems within national programs; and (4) studies which do not directly deal with cost-effectiveness analysis but which provide supporting methodology or other cost ratios. We begin with three studies of projects designed to test integration of family planning with health care.

Integration of family planning with health care

Narangwal, India. Besides the issues of equity and categorizing a project target population according to prior use of contraception, William Reinke's study of the Narangwal project has some interesting cost-effectiveness results.

The project covered some 3,400 mar-

Table 5. Relationship Between Input, Output, and Outcome by Experimental Group: Narangwal, India

Experimental group[a]	IP (U.S. $ per 1,000)	OP[b]	OC[c]	OP/IP	OC/OP	OC/IP
FPWSCC	240	90	214	.375	2.378	.892
FPWS	440	92	243	.209	2.641	.552
FPCC	667	108	172	.162	1.593	.258
FPed	1,080	82	111	.076	1.354	.103

Source: William A. Reinke, "Cost-Effectiveness with Equity: A Review of Narangwal Project Summaries (India)," in Sirageldin et al, *Evaluating Population Programs.*

[a] FPWSCC = Family planning plus women's and children's health services
FPWS = Family planning plus women's health services
FPCC = Family planning plus children's health services
FPed = Family planning education only
[b] OP = Number of program contraceptive acceptors among non-users per 1,000 (target) population
[c] OC = Number of births averted per 1,000 (target) population

ried, non-sterilized women who were aged 15-49 in 1974 and was divided into four experimental combinations, as outlined on page 17 and listed in Table 5. This table gives Reinke's cost-effectiveness results, from which he concludes:

> "In general, narrower ranges of services produced greater effects in the limited areas of concern. However, fully integrated services (FPWSCC) were nearly as effective in each of these areas. This, coupled with the fact that FPWSCC yielded a larger total volume of services more efficiently, i.e., at lower unit cost, led to the conclusion that integrated services are attractively cost-effective in achieving multiple health and family planning objectives. Family planning was most readily integrated with women's services and the resulting effects were sustained throughout the project period."

This analysis used a comprehensive definition of field costs, including salaries, drugs and contraceptive supplies, buildings, equipment, and vehicles. The costs are expressed in dollars per 1,000 population within each of the four groups of women, with no mention of the price index or exchange rates used. Reinke, as also seen below in his study of a Thai project, is interested in accurately assigning costs for different activities.

As noted in the preceding section, cost-effectiveness ratios are usually constructed with costs in the numerator and benefits in the denominator, for example, costs per birth averted. Reinke's ratios are reversed; OC/IP, for example, refers to births averted per unit cost of inputs. However, he does provide an estimate of the dollar cost per birth averted for the experimental group receiving the full package of women's and children's health care combined with family planning services (FPWSCC). At an annual cost of $240 per 1,000 women in the target group (married, non-sterilized women aged 15-49), 21.4 percent of the group would be fully protected against pregnancy, and according to Reinke's calculations, this amounts to $18.38 per birth averted.

DANFA, Ghana. The DANFA project in Ghana is the subject of a second case study focused on the efficacy of integrated services.[22] This project was located in a rural area 23 miles from Accra which was divided into four sub-areas, each with 12,000 to 15,000 people. Stewart Blumenfeld of the UCLA School of Public Health reports that the overall goal of the project was to investigate which physical and social factors make for effective participation in the health care system. Since family planning was considered a part of that system, the goal of interest here is whether it should be left as a freestanding program or fully integrated with health care.

The four experimental areas provided the following services:

Area 1—comprehensive health care, including preventive and curative health care, health education, and family planning;

Area 2—health and family planning education plus contraceptives;

Area 3—only contraceptive services;

Area 4—a control site in which no new services were provided.

For Areas 1, 2, and 3, the family planning services were standardized by regularly rotating personnel.

Begun in 1974, the project was redesigned in 1975 when the central government decided to adopt the integrated approach. This led to less stress on standardized services and intensified effort in Area 1. Nevertheless, data continued to be collected for each area and this helps shed light on the issue of integration.

In calculating cost-effectiveness ratios, Blumenfeld included a comprehensive set of field costs covering: personnel, transportation, materials (including the shadow price of contraceptives donated by the U.S. Agency for International Development), and the value of time spent by health education teams doing family planning motivation (compiled from administrative time-logs). Costs were converted from Ghanaian cedi to U.S. dollars according to the official 1973-1976 exchange rate of $1 = C1.15. Blumenfeld notes that this is an overvalued rate which ignores inflation and thus does not accurately reflect real costs.

Effectiveness was measured using data on new family planning acceptors and on continuation rates. Because the project policy was to provide services to anyone requesting them, residents outside the project areas did receive contraceptives and health treatments. This could present problems for assessing change in contraceptive behavior in a given area as well as for measuring area-specific cost-effectiveness. However, since the data were collected in such a way as to distinguish outsiders from area residents, the costs could be adjusted. Blumenfeld decided to deduct only the cost of contraceptives issued to non-area residents because the cost of providing basic services was viewed as fixed, that is, not related to the number of clients served. The cost-effectiveness ratios, using cost per new acceptor, are as follows for 1976:

World Bank

A market scene in Ghana.

	Area 1	*Area 2*	*Area 3*
Cost	$12,029	$9,933	$6,318
New acceptors	244	102	70
Cost per new acceptor	$49.22	$97.38	$90.26

From these calculations, Blumenfeld concludes that for Ghana, integrating family planning services with full health services (Area 1) is more effective than when family planning is linked with limited health services (Area 2) or offered on its own (Area 3). However, he expresses some caution because the findings were not standardized by "user characteristics," i.e., there may have been differences in age, education, family size, etc. among women in the three areas which could account for some of the variation in the cost for attracting each new family planning acceptor.

Rural household delivery, Colombia. The last case study in this section, by Fernando Gomez, Population Council representative in Colombia, looks at both the integration of services and use of paramedical staff.[23] Initiated by the Colombia Ministry of Health in 1979, the project had four goals: (1) to determine if paramedical rural health promoters could distribute oral contraceptives safely without prescription; (2) to analyze the effect of an initial home distribution of contraceptives on contraceptive practice; (3) to test the impact on child nutrition of distributing antihelminthics (a drug in tablet form which almost overnight kills the intestinal parasites or worms which afflict about half of the children in this area); and (4) to see if family planning services integrated with antihelminthic distribution would increase contraceptive use.

The project was carried out in Boyaca, 150 kilometers northeast of Bogota, and covered 60,000 rural inhabitants, divided into four experimental groups, as follows:

	Initial and resupply of contraceptives plus basic services	Contraceptive referral plus basic services
Antihelminthic delivery	*Group OA* 25 promoters 3,000 families	*Group AO* 25 promoters 3,000 families
No antihelminthic delivery	*Group OO* 25 promoters 3,000 families	*Group RO* 25 promoters 3,000 families

Gomez reports three basic results after the project had been in operation for two years. First, contraceptive use increased in all four experimental groups. Overall, the percentage of pill users increased from 1.6 percent to 7.7 percent, women who had been sterilized increased from 1.9 to 4 percent, IUD users stayed relatively constant, and the proportion of women using folk or traditional methods jumped from 1.8 to 13.4 percent. Second, contrary to what had been expected, family planning services integrated with distribution of antihelminthics were no more effective than family planning services alone in increasing contraceptive use. Finally, and also contrary to expectations, the use of contraceptives increased substantially in areas both with and without initial household delivery. Gomez suggests that this was the result of the extra training and supervision given to rural health promoters and the project's emphasis on family planning. The promoters responded by working harder to achieve success, regardless of which experimental area they were assigned to. (By 1982, three years after the project began, 63 percent of eligible women were practicing contraception in the four experimental areas as a whole, compared to 49 percent in a nearby area where rural health care delivery continued without special training or emphasis on family planning.)

Three types of costs are included in Gomez' cost-effectiveness analysis: variable costs, covering training, supervision, antihelminthic drugs, and scales (to weigh children), but not donated contraceptives; fixed costs for salaries and other promoter expenses; and experimental costs for computer and staff research time. The costs are expressed in dollars, without reference to the exchange rate or price index (inflation).

The author presents his results as costs per "new user." He has two definitions of new users: (1) clients served by promoters' household visits, derived from service statistics; and (2) new users defined as the increase in number of continuing users of contraception two years after the program began. This second definition takes account of program dropouts. Definition 1 corresponds to our definition of acceptor while definition 2 corresponds to continuing users. Gomez' cost-effectiveness results for the two definitions are:

	Cost per "new user"	
Experimental group	Definition 1 (acceptor)	Definition 2 (continuing user)
OA	$483.00 (394)*	$634.50 (300)*
AO	—	$848.30 (195)
OO	$476.40 (335)	$691.10 (191)
RO	—	$612.70 (173)

*Number of users in parentheses

The first thing of note is that the cost per acceptor (definition 1) is lower than the cost per continuing user (definition 2), indicating some dropout. Gomez concludes that providing full family planning services, but without antihelminthic distribution (group 00), was the most cost-effective. But this is supported only by his first definition of "new user." Under definition 2, the strict cost-effectiveness ranking would put contraceptive referrals only (RO) first, followed by OA (full family planning services integrated with antihelminthic delivery), OO, and AO (referrals plus antihelminthics). However, since the fully integrated services used with group OA produced almost twice as many contraceptive users as RO (300 versus 173) for only 3.6 percent more cost and presumably also helped control worms, this appears to be the best delivery system (subject to verification controlling for user characteristics, if possible).

This study shows how the choice of denominator can affect cost-effectiveness analysis results. Gomez' results using his first definition of "new users" (or acceptors) do not show family planning services integrated with health care to be the most cost-effective, contrary to the Narangwal and DANFA findings, but apparently do when costs are applied to his definition corresponding to continuing users. (It should be noted, however, that "integration" here means only the inclusion of one health service with family planning services.) Also of note is how much higher the costs per acceptor are in the Colombian study compared to those in DANFA. (The Narangwal study uses couple-years of protection and thus cannot be compared directly.) The DANFA cost-effectiveness analysis excludes research and expatriate staff costs and includes the cost of donated contraceptives—the reverse of the Colombian study. Since research costs can be high, their exclusion could explain the lower costs computed for DANFA. Blumenfeld, author of the study of DANFA, argues that research costs can be excluded in this case because they do not contribute to judging whether or not the DANFA project would be worth replicating in another location. Is this valid? Since all projects do contain some research and evaluation costs, what to exclude is a matter of choice. We have already discussed the necessity for including the shadow price of donated supplies. Comparing these two projects serves to highlight the pitfalls of careless comparisons.

Community-based distribution

The two case studies reviewed in this section discuss projects which were designed on the assumption that there is a certain level of unmet need for contraception, especially in rural areas. This need can be met by concentrating more on efficient distribution of contraceptives. Focusing on distribution is not in contrast to the integration issue discussed above but instead is a shift in emphasis. Integrating family planning with health services can attract new clients while delivering contraceptives to women's homes can keep women involved in family planning once they have shown some interest. Both these community-based distribution projects, one in Haiti and the other in Piaui State, Brazil, used paramedical personnel and involve geographic comparisons.

Household distribution, Haiti. This project was designed to reconcile the discrepancy between the number of women who had ever used contraceptives (37 percent) and those currently using (7 percent), given that 40 percent of women aged 15-49 said they wanted no more children. The authors of this project report, Ary Bordes, James

Allman, Joanne Revson, and Adeline Verly, hypothesized that the lack of readily available modern contraceptives was an important factor in the low rate of current use.[24] A house-to-house delivery system by local paramedical workers was adopted as one possible remedy.

Three areas were covered by the project: Fond Parisien, St. Marc, and Leogane, each with 10,000 to 12,000 people. All the areas are predominantly rural and underdeveloped. The initial round including a preliminary survey and contraceptive distribution was begun in January 1978, August 1978, and March 1979, respectively. All women aged 15-49 were given family planning information and oral contraceptives, foam tablets, or condoms if there were no medical contraindications and if the women agreed. A box of condoms was also left with any men who wanted them. Second and third rounds were subsequently completed.

The distribution system was not standardized and there were consequently unplanned-for geographical variations. The initial distribution in Fond Parisien only left contraceptives with women who expressed an active interest (15.6 percent). More aggressive distribution was followed in St. Marc where 42.3 percent of the women accepted either pills or foam. (Condoms were excluded from the analysis.) The initial round was even more successful in Leogane; 66.9 percent of the women accepted contraceptives.

This project was not a "classic" experimental design because different delivery systems were not compared, nor was there a control group. However, it became a quasi-experimental situation by default because the distribution approaches were different. The area with the most aggressive distribution (Leogane) had the highest number of acceptors, the most continuing users, and the greatest percentage drop in pregnancy. This supports the authors' hypothesis that contraceptive use will increase with better distribution. Unfortunately, their study provides little background information on the regions, but the authors do point out that the lower levels of program success in Fond Parisien may have been due to higher contraceptive use and lower pregnancy rates before the project began.

AID

In Haiti, aggressive community-based distribution markedly increased contraceptive use.

The area with the most acceptors in this case was also the most cost-effective:

Area	Cost	Number of current users	Cost per current user
Fond Parisien (FP since 1969)	$21,067	173	$121.77
St. Marc (some previous FP)	$21,067	380	$ 54.44
Leogane (no previous FP)	$21,067	999	$ 21.09
Total all areas	$63,000	1,552	$ 40.72

The costs included in these calculations are salaries, training, per diem for distributors and coordinators, project vehicles, supplies, and Division of Family Hygiene backup support. Not included are research costs, data processing, and the cost of donated contraceptives.

Costs are expressed in dollars, with no indication of the exchange rate or any use of a price index to measure inflation. The number of current users was based on interviews conducted during the last round of contraceptive distribution.

The authors argue that community distribution is an effective way to increase contraceptive use. However, the results of the quasi-experiment are not compared, for example, with the clinical program which was already operating in Fond Parisien. We can only conclude that community-based distribution is one way to increase contraceptive use when aggressively carried out, but we do not know if it is more or less effective than other delivery options.

Another shortcoming is that condoms had to be excluded from the analysis. Although condoms were distributed, no effort was made to find out how many couples were using them. Condoms are not a highly effective method; nonetheless, they probably did have some part in the reduced pregnancy rates.

BEMFAM, Brazil. The second project came under the management of BEMFAM, Brazil's large private family planning program.[25] It was a community-based distribution project carried out in 1979-1980 in Piaui State which was designed to contrast the effectiveness of distribution centers located in health, community, or home settings. All services were performed by non-physician volunteers.

Piaui was divided into three non-overlapping areas. Area A, served by health and home posts, was 47 percent urban and contained Piaui's main city, Teresina. There was a target population of 117,000 married women aged 15-44. Area B provided distribution from health and community posts and had an eligible population of 53,000 women. Area C offered only health center distribution and had an eligible population of 60,000 women. Both B and C were about 23 percent urban. Only oral contraceptives were distributed in all areas. (Area C is excluded here from further analysis because it does not aid in the comparison of delivery sites.)

Programs costs were counted as distribution, training, supervisors' salaries, transportation, and contraceptives. Distributors' volunteer time was not counted. All costs except for pills were converted into constant cruzeiros (using a price index) and then converted into dollars using a constant exchange rate. Pill costs were already in dollar terms.

Using cost per active client, the authors of this study, James Foreit, Walter Rodrigues, Jose Maria Arruda, and Jose Milare, found that distribution posts located in health centers were more cost-effective than those in non-health locations, as seen in these results:

Area	Site	Cost (U.S.$)	Active clients	Cost per active client
A	Health	$36,336	7,025	$ 5.15
	Home	$19,214	2,489	$ 7.74
B	Health	$32,134	4,596	$ 6.99
	Community	$15,628	1,501	$10.41

The authors suggest that health posts attract more clients either because of their medical ambience or because they are located in high traffic areas. In Area A, distribution of pills through health posts was 50 percent more cost-effective than distribution through home posts and in Area B, it was 49 percent more cost-effective than distribution through community posts. The study could not make valid comparisons between home posts (used only in Area A) and community posts (used only in Area B) because of the differences between Areas A and B. The authors do note that the project staff preferred community centers over home sites because of their busier locations.

The very low cost-effectiveness ratios for this project should be viewed as exceptional because most of the staff's (volunteer) time is excluded from the analysis. In Haiti, staff costs were almost three-quarters of the total. As with the Haiti project, this project demonstrated that community-based distribution can attract family planning clients, but the cost-effectiveness analysis of it, like that of the Haiti project, made no comparisons with other forms of distribution.

National comparisons

Two case studies compare different strategies used within nationwide family planning programs in Colombia and India.

PROFAMILIA, Colombia. PROFAMILIA, Colombia's private family planning association, offers family planning services through four programs. Gabriel Ojeda, Jesus Amadeo, Alvaro Monroy, and Paul Richardson have used cost per couple-year of protection to compare the cost-effectiveness of the four service delivery packages for 1977 through 1980.[26] The four programs are: clinic-based services, voluntary sterilization, urban and rural community-based distribution, and social marketing, that is, commercial sales of contraceptives. Net costs enter into the cost-effectiveness analysis here because contraceptives are sold in both the community-based distribution and social marketing programs, though at subsidized prices, and clients in the sterilization program are charged a fee. The social marketing program actually makes a profit for PROFAMILIA and in this case, cost per couple-year of protection becomes income per couple-year of protection.

The costs used in this study include only PROFAMILIA's "actual" costs (authors' term), not the cost to donor agencies. All costs were converted to 1980 dollars using an index based on exchange rates and consumer prices.

The clinic program began in 1965 and by 1972 had 42 clinics. Since then, other programs have been introduced and the number of clinics reduced to 33. Annual numbers of new acceptors remained fairly constant over the study period, ranging from 76,800 in 1977 to 84,500 in 1979. IUDs have always been the most popular method in this program, while pill use has dropped and female sterilization has increased (in this program only).

Marcia Townsend/Population Council

Distributors in PROFAMILIA's community-based distribution program in rural Colombia gather for a training session.

The voluntary sterilization program began in 1971 with an emphasis first on vasectomy and then—after political and religious protest—on female sterilization. Some 160,200 sterilizations were performed between 1977 and 1980.

The community-based distribution (CBD) program was designed to function outside the clinical network and thus provides contraceptives which do not need strict medical supervision—pills, condoms, and foam. Local community distributors receive a small remuneration for selling contraceptives at subsidized prices. During the study period, the program was administered in separate urban and rural components. The CBD program currently accounts for more than half of PROFAMILIA's family planning services.

The social marketing program uses mass media advertising to promote sales of contraceptives at somewhat higher, though still subsidized, prices through pharmacies and sales posts in existing clinics.

Program support costs for all four programs cover information, education and communication, accounting, general services, industrial relations, and evaluation. Costs were allocated proportionally according to either the time devoted to each activity or the number of employees in that area. Information was inadequate for 1977-79 and therefore the cost distributions for 1980 were assigned to all years.

The cost-effectiveness results are as follows:

Cost per couple-year of protection
(in 1980 U.S. dollars)

Program	1977	1978	1979	1980
Clinic	12.87	13.72	16.46	15.27
Sterilization	4.31	2.90	2.74	2.18
Urban CBD	4.09	3.20	3.05	3.42
Rural CBD	22.75	20.63	20.28	18.70
Social marketing	(0.72)*	(0.09)*	(1.80)*	(1.03)*

*Income per couple-year of protection.

Obviously the programs vary in cost-effectiveness. The least cost-effective—clinics and rural community-based distribution (CBD)—provide services to clients with special needs, while most clients were reached through the more cost-effective channels. Clinics were necessary to provide medical backup for all the programs and the rural population needed a more intensive (and thus more expensive) educational component. This is another example of the tradeoff between equity and efficiency.

Based on the cost-effectiveness results, PROFAMILIA combined the urban and rural CBD programs under one administration and shifted the educational component from a house-to-house to a group approach. Cost analysis has served to highlight the most effective allocation of family planning services and reveal spots of inefficiency.

India's national program. A report by J. K. Satia on family planning activities in India takes a very different approach.[27] Because of the diversity of programs in India, no analysis equivalent to the PROFAMILIA study is possible. Instead, he reviews the kinds of services offered and the difficulties in comparing them, using materials produced by the programs themselves.

After a discussion of Narangwal, which supports the findings of Reinke, Satia cites a comparison of costs with the main national family planning program done by the staff of the All-India Hospital Postpartum Program which promotes contraceptive acceptance among women coming to government hospitals and medical colleges for births or abortions. The postpartum program staff claim that their program is more cost-effective than the national program in terms of cost per acceptor. Satia declares that this is not a meaningful result for three reasons: (1) the definition of costs is different; the postpartum program uses incremental costs while the national program uses total costs; (2) the activities of the national program affect the postpartum program's success; and (3) the postpartum program serves a limited clientele, that it, its users' characteristics are different. These are all problems of comparison which have been discussed above.

Next, Satia discusses basic needs rural projects which integrate not just health care and family planning but also irrigation and housing projects and agricultural development, all of which are assumed to interact. Projects like this are very hard to evaluate. Goals are adapted to changing needs, records are often inadequate, and the experimental areas are often quite small and do not include control areas. Satia concludes that, while this kind of project does appear to benefit the villagers who live within its domain, the benefits are hard to quantify and even harder to compare with other projects.

Satia also discusses the no-birth scheme operated on three South Indian tea estates from 1971 to the late 1970s. Women tea-pickers received savings accounts, set up and increased regularly by the employing companies, as nest eggs to be withdrawn at the end of their childbearing years, but reduced proportionately after third and fourth births and wiped out after a fifth birth. Although birth rates did fall on the three estates and the incentive scheme appeared more cost-effective than the national family planning program, Satia again concludes that the comparison is misleading. Birth rates among the tea-pickers were already lower than the national birth rate before the project began (a difference in user characteristics) and the cost of administering a small program to a clearly defined group of women is much less than the cost of the large, diverse national family planning program.

Satia's study covers several of the issues mentioned in the section on comparing cost-effectiveness analysis reports. It is very important to take into account differences in the scale, duration, and client population of the projects being compared.

Other issues

The data needed for a cost-effectiveness analysis, while not sophisticated, can be difficult to reconstruct from poorly designed or maintained records. The best approach is to plan for evaluation needs in advance.

This is the focus of a study of a Zaire family planning project by Jane Bertrand and Nlandu Mangani.[28] The project, which was just getting under way in 1981, is based on two experimental areas—one urban and one rural—and two control areas. Its goals are to increase knowledge of family planning and use of modern contraceptives, decrease the desired family size, and increase medical services to children under age five. Eleven forms have been developed to gather the information necessary to see if the experimental design is adequate to accomplish these goals. The forms cover four data categories: daily service activities, use of services, inputs used, and logistics and distribution of contraceptives. Perhaps by careful advance planning, the Zaire project can avoid some of the methodological problems seen in the evaluation of other projects.

Elizabeth Maguire/AID

Two home visitors make their rounds in Zaire's family planning/child health project which has been planned in advance to gather data needed for cost-effectiveness analysis.

In the same vein, William Reinke proposes a methodology for accurately assigning costs to different tasks in Thailand's Lampang Province Health Development Project.[29] The project, an integrated health and family planning delivery system, provides services at district hospitals, health centers, and midwifery centers, and by 1980 covered a population of 600,000, expanding from one district in 1975 to 12 districts in 1980. Activity patterns at the three kinds of delivery sites were observed three times for one-week periods and all the observations were combined to produce a distribution of "typical" staff activities over the project period. Direct service time was recorded by function: medical care, communicable disease control, sanitation, maternal and child health care, family planning, and nutrition.

By carefully detailing how worker time

was spent, Reinke is able to get an estimate of the staff costs of different functions. Among the issues he finds important is how to cost "non-productive" time. On first analysis it appeared that as much as 50 percent of staff time was non-productive, that is, not used for direct or indirect service activities. However, on reexamination, it appeared that much of this time was spent on training of students, identified as "student service contacts." Reinke suggests calculating the cost of productive time (productive hours times salary per hour for each staff rank, summed within the six functions) and subtracting it from the total staff cost (overall hours worked times salary). The residual is the cost of non-productive time. Then that cost can be distributed proportionally among different service components. Reinke also suggests a proportional allocation of indirect service activities like administration and housekeeping. These activities use twice as much time as direct service work and are harder to divide by function since they are often joint tasks.

The importance of Reinke's "task analysis" for cost-effectiveness analysis lies in an accurate cost measurement for integrated programs. Data collection designed to answer specific questions and an explicit presentation of assumptions behind the calculations are necessary for optimal cost-effectiveness analysis.

Conclusions

In the nine country studies discussed, was cost-effectiveness analysis used for administrative purposes or was it done merely as an academic exercise?

In Ghana, the decision to use an inte-

A small boy helps his mother collect water in Thailand. Cost-effectiveness analysis can provide answers about which family planning delivery systems to choose, but reducing fertility in Third World countries also requires efforts to change the circumstances of rural couples so they will need and want fewer children.

grated approach was made before any cost-effectiveness analysis had been done. However, in Colombia's PROFAMILIA the decision to join the administrations of the urban and rural community-based distribution programs stemmed from the cost-effectiveness analysis results. Further, in the rural household project in Boyaca State, Colombia, the analysis led to a nationwide decision to allow rural health promoters to initiate use of pills, condoms, and foam. The experience gained from the Haitian project is being applied to expansion of community-based distribution nationwide. The other country case studies do not mention any followup to their cost-effectiveness findings.

In no study is there any comparison with other projects. Thus, the pitfalls of comparison are avoided, but with some loss of information. None of the analyses were done with reference to achieving targets within a specified budget.

These nine studies, therefore, yield a mixed picture of how useful cost-effectiveness analysis has been to analysts and planners. Several aspects of cost-effectiveness analysis must be improved before its use is likely to become more widespread:

- On the cost side, all inputs must be included. Valuation of donated contraceptives and time and careful analysis of staff tasks can aid that process.
- All services and methods need to be evaluated. Condoms, for example, are distributed in almost every project and differences in condom use among experimental areas can change the outcome. However, condoms are often ignored in subsequent analysis because their use is harder to measure.
- Cost per acceptor should be relied on less. Ease of calculation is not a good excuse for relying on weak or misleading results. Age-adjusted couple-years of protection is not much more difficult to calculate and provides a better measure of the impact of program activities.
- User characteristics must be taken into account. In addition to women's age, it is important to know about contraceptive use before the project began.
- Anticipating cost-effectiveness analysis and the data needed for it should be built into a project at the planning stage. This will ease the task of an analysis which today's cost considerations and limited funds make almost imperative.

Of course, cost-effectiveness analysis can never provide all the answers about which family planning delivery system to choose. As the PROFAMILIA analysis showed, clinics may not be the most cost-effective but are still a necessary part of a comprehensive delivery package. Cost-effectiveness analysis should be seen as one part of an overall analysis. Further, there are important questions which cost-effectiveness analysis does not address. Why is a rural program less efficient than one in an urban area? Perhaps in part because rural couples really do want and need more children to support them in their current circumstances. Cost-effectiveness analysis does not address individual families' needs for children. The priority attached to changing the circumstances and attitudes of its rural population must be part of a country's overall development planning in terms of both philosophy and the allocation of funds. ☐

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Population Bulletin

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Abstract—This *Bulletin* reviews China's population trends and policies since the People's Republic was founded in 1949. The 1.008 billion July 1982 census total was nearly double the some 540 million population of 1949. Optimism about growth of over 2 percent a year and two brief family planning programs in the 1950s and 1960s gave way in 1971 to a strong family program based on "state guidance and mass voluntarism." Stressing late marriage, long birth intervals, and a two-child family, this helped halve the reported birth rate from 33.6 per 1,000 population in 1970 to 17.9 in 1979 when the one-child-per-couple drive was launched to counter the impact of the arrival at marrying ages of the large 1960s baby boom generation. By mid-1982, 15 million couples had pledged to have only one child, theoretically entitling them and their children to special benefits, but penalties if the pledge is broken. However, in 1981 the birth rate rose to 20.9 per 1,000 and natural increase (births minus deaths) rose to 1.5 percent, due in part to a surge of marriages under a new law which permits marriage at 20 for women and 22 for men—three to five years earlier than in the 1970s. The current goal of a population of no more than 1.2 billion in 2000 is likely to be exceeded by 150 million. Barriers to the one-child family, especially among the 80 percent of the population in rural areas, are persistent male preference, inadequate public support for the elderly, high one-child benefit costs, and the new agricultural responsibility system which makes children again valuable as contributors to family income. Current population policy also includes prohibition of marriage among close relatives, some fertility limitation among the 55 non-Han minorities (6.7 percent of the total population) formerly exempt from family planning, and relocation of excess rural population in small cities and towns to brake the growth of cities of over 1 million population which has accelerated despite strong anti-urbanization measures since the early 1960s.

Editor: Jean van der Tak Graphics: Andrew Hemstreet

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By H. Yuan Tien

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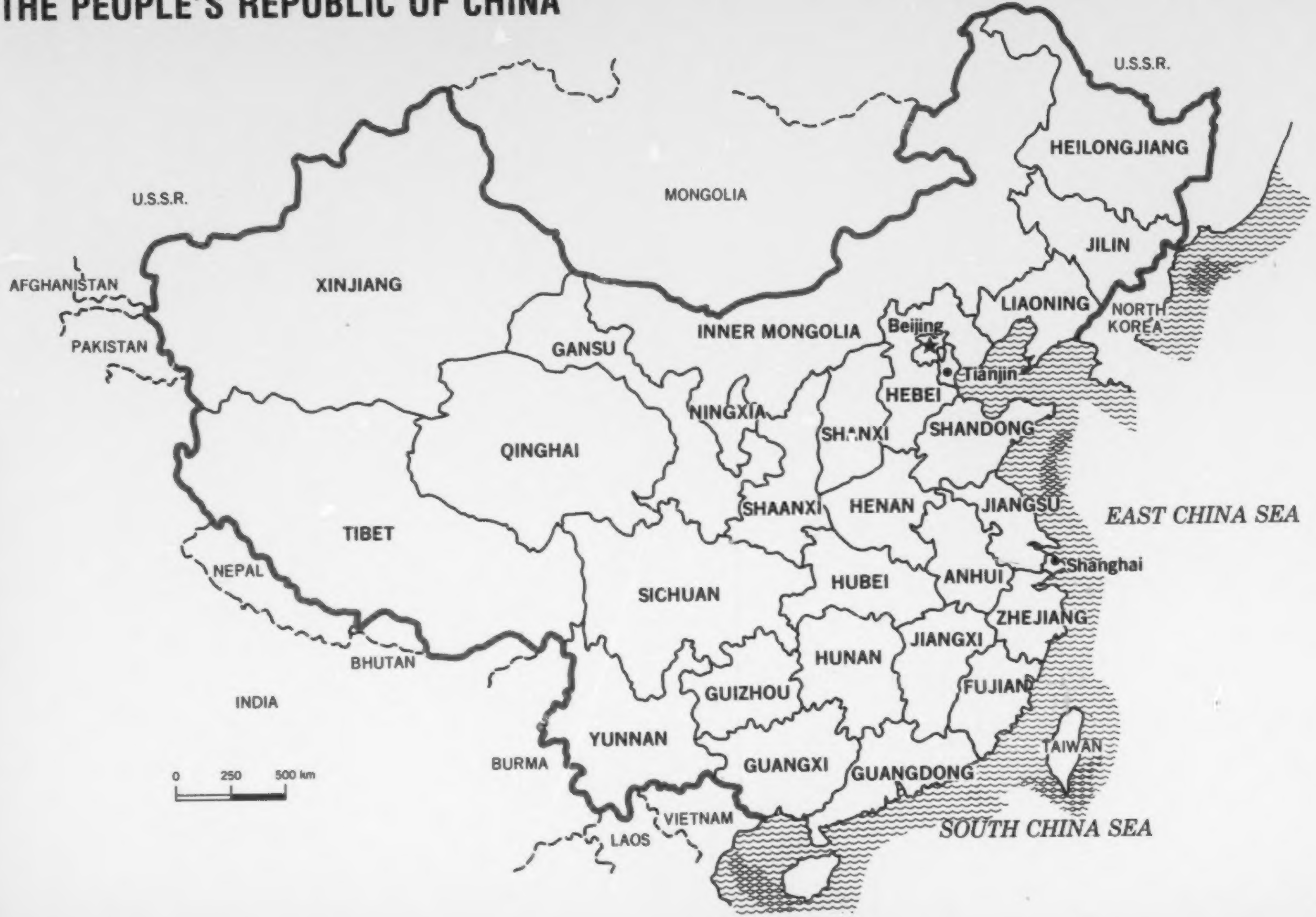
THE PEOPLE'S REPUBLIC OF CHINA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China: Demographic Billionaire

By H. Yuan Tien
The Ohio State University

H. Yuan Tien, who was born in China, holds the M.A. in sociology from the University of Pennsylvania and the Ph.D. in demography from the Australian National University. He is currently Professor of Sociology at The Ohio State University. Previously he taught at the University of Wisconsin-Milwaukee and the University of Illinois-Urbana. His numerous publications on China's demographic trends and population policies include China's Population Struggle: Demographic Decisions of the People's Republic *(1973),* Population Theory in China *(1980), and many articles in professional journals, the most recent of which are listed in the* Selected Bibliography *(see page 42). On his most recent visit to China in 1979-80, Dr. Tien lectured at the China Academy of Sciences, the Chinese People's University, and several other universities as a Senior Research Scholar under the first exchange program signed between the Committee on Scholarly Communications of the U.S. National Academy of Sciences and the People's Republic of China after the normalization of relations. As this* Bulletin *goes to press, he is serving as Visiting Professor in the Department of Sociology of Peking University in Beijing.*

Dr. Tien began preparation of this Bulletin *while he was at the Population Reference Bureau in 1981-82 as Andrew W. Mellon Visiting Scholar. Its completion owes much to the help of PRB staff members and to the opportunity to teach a course on China's population in 1982 at the Department of Demography of Georgetown University in Washington, D.C.*

1,008,175,288 people make the People's Republic of China the world's first "demographic billionaire." This July 1, 1982, census total—announced on October 27, 1982—reflected an increase of 314 million in the 18 years since the last census in 1964. The average annual gain since 1964 had been 17.4 million people, or 2.1 percent. The preliminary 1982 census figures put the national birth rate for 1981 at 20.9 per 1,000 population and the death rate at 6.4, yielding a rate of natural increase of 14.5 per 1,000, or about 1.5 percent. This was a considerable drop from the 2.3 percent growth rate reported for 1971 when China began "birth planning" in earnest, but an increase over the 1.06 percent annual increase rate reported most recently for 1980.

The 1982 Chinese total is equal to the estimated population on earth in 1850. By 1982, the world's population had more than quadrupled to 4.6 billion; the majority of earth's living inhabitants were born during the most recent 37 years since 1945. Roughly resembling the world pattern, more than one-half of China's billion people in 1982 also began their lives during the 33 years since the proclamation of the People's Republic in 1949.

However, no other single country comes close to China in population size. India's population is the second largest, but its estimated mid-1982 total of 714 million was not quite three-quarters as large as China's. When combined, the third largest population in 1982 (the Soviet Union—270 million) and the fourth (the United States—232 million) still barely exceeded 50 percent of China's 1982 total. China's 1.5 percent rate of natural increase in 1981 was substantially below the estimated 2.4 percent rate for all other less developed countries as a whole at the beginning of the 1980s but more than double the U.S. 1981 natural increase rate of 0.7 percent.[1]

Population pressures

China's population size and growth are both fascinating and worrying. The livelihood of the average Chinese has improved impressively in many respects since the 1950s. The improvements include increases in per capita grain and

Table 1. Indicators of Improvement in People's Livelihood: China, 1952-1980 (Per capita figures unless otherwise indicated)

Item	1980	1952	Percent increase 1952-80
Food supplies			
Grain	427.6 catties[a]	NG[b]	8.2
Vegetable oils	4.6 catties[a]	NG	9.8
Pork	22.3 catties[a]	NG	88.6
Sugar	7.7 catties[a]	NG	320.0
Textiles (cotton and synthetic)			
Overall	31.1 chi[c]	17.1	76.0
Urban	49.5 chi	NG	21.9
Rural	25.8 chi	NG	85.6
Cultural amenities and major consumer goods			
Sewing machines	(46,040,000 units)		
Urban	1 per 2 households		
Rural	1 per 5.7 households		
Bicycles	(96,170,000 units)		
Urban	1.2 per household		
Rural	1 per 3 households		
Wrist watches	(128,000,000 pieces)		
Urban	1 per 2 persons		
Rural	1 per 17 persons		
Hospital beds	(1,982,000 units)		
	2.2 per 1,000 persons	0.3 per 1,000	600.0
(1981)	(2,017,000 units)		
Movie units	(125,000 teams)		
	1 per 10,000 persons	0.2 per 10,000 (1957)	750.0
(1981)	(131,000 teams)		
Newspapers	(14.0 billion issues)		
	4 per 100 persons	NG	500.0
(1981)	(14.1 billion issues)		
Books, etc.	(4.6 billion copies)		
	4.67 per person	NG	240.0
(1981)	(5.6 billion copies)		
Radio stations	106		
(1981)	114		
TV stations	38		
(1981)	42		
TV sets	(9,028,000 units)		
Urban	1 per 6.8 households		
Rural	1 per 53 households		

Sources: State Statistical Bureau, 1981 report, *New China News Agency*, August 12, 1981; and *Xinhua Yuebao (New China Monthly)*, No. 9 (1982) p. 129.

[a] 1 catty = 1.1 lbs.

[b] NG = Not given. However, 1952-80 percent increases are shown in the original reports.

[c] 1 chi = 13.1 inches.

textile supplies as well as in cultural amenities like movies, books, radio and TV, hospital beds, and consumer goods such as bicycles, sewing machines, and watches (see Table 1). In 1979, because of conversion of arable land to nonagricultural uses, China had 9 percent less land under cultivation than in 1957—1.52 billion mu compared to 1.67 billion mu (1 mu = 1/6 acre). Yet food and fiber production had increased sufficiently in those years to support a population that is as large as the world's in 1850. Agricultural output increased 5.7 percent in 1981 and was projected to increase another 5 percent in 1982. Industrial output went up 5.1 percent in 1981 and a gain of nearly 8 percent was projected for 1982.[2]

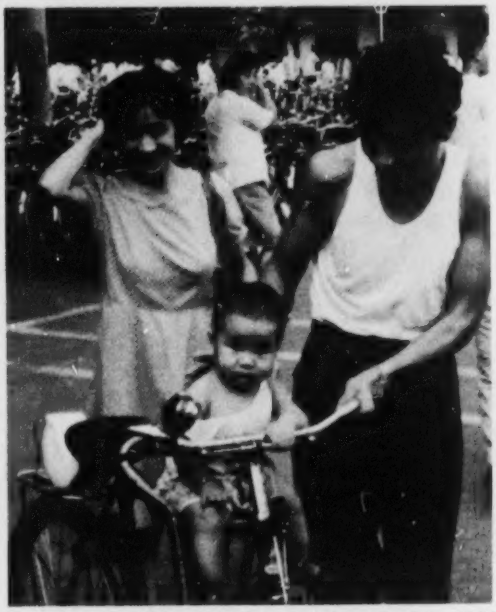
However, the impressive gains in total output remain limited in relation to current and future demand for still greater improvement in living standards. Vegetable oils and pork, for instance, are scarce. The 80 percent of people living in rural areas have access to few consumer goods (less than 2 percent of rural households own a TV set, for instance) and 25 to 30 percent of the rural labor force is underemployed or unemployed. Employment is an even greater problem in urban areas, along with housing and transportation, and providing adequate educational facilities is a formidable problem nationwide. In 1979, China's per capita GNP was $253 and the current aim is to quadruple this figure by the year 2000. Total GNP increased 4.5 times in the 28 years from 1953 to 1981, but population growth reduced the per capita gain to a mere doubling.[3]

The fundamental scarcity is arable land. With some 22 percent of the world's population, China possesses only 7 percent of the world's arable land. Only about one-tenth of the country's 9.6 million square kilometers is arable and cultivated land has dropped from 2.7 mu per person in 1949 to a little over 1.5 mu, or one-quarter of an acre per person, in 1979. This is one-ninth of the average in the U.S. and half the average in India.[4]. Expanding land under cultivation appears to have reached a limit. The Ministry of Agriculture recently reported that reclamation had added 250 million mu to the land under cultivation, effectively using up the 500 million mu of reclaimable wastelands estimated to be available in the late 1950s.

Current policies

The huge size and large annual growth of China's population, while not foreclosing the prospects for improvement, have aroused anxieties among policymakers and scholars. Past errors in the management of the country's demographic health have been admitted—unchecked optimism about population growth in the early years of the People's Republic and interruption of the first lukewarm family planning efforts by the Great Leap Forward in the late 1950s and the Cultural Revolution in the late 1960s. Since 1971 China has become a "born-again" advocate of population control.

The *wan xi shao* campaign begun in that year established the three reproductive norms of late marriage (mid-20s for women; late 20s for men), longer intervals between births (three to four years), and fewer children—no more than two per family in cities and three in rural areas. By 1979 it was realized that because of the large number of people born during the 1960s and early 1970s and now starting to marry, even a two-child family would mean continuing population growth for at least half a century. Thus the famous and unique one-child-per-couple campaign was launched. By mid-1982, 15 million couples with only one child had pledged to have no more and received "only child glory certificates," entitling them in theory to bonuses, larger pensions, free health care for their child, and priorities in housing and eventually in school and employment for the single child. Publication of the 1982 census results prompted intensified efforts to attain the current goal of limiting population to no more than 1.2 billion in the year 2000. With half the



Tema David

China's one-child campaign was launched in 1979 and by mid-1982, 15 million couples with a single child had pledged to have no more.

population aged under 21 and some 13 million couples due to reach marrying and childbearing ages each year over the next 18 years, attaining that goal requires a natural increase rate of under 9.5 per 1,000 population. Added to the revised constitution adopted by the National People's Congress in December 1982 was the stipulation that "both husband and wife have the duty to practice family planning." The constitution of 1978 had declared only that "the state advocates and encourages birth planning." Also in December 1982, the Central Committee of the Chinese Communist Party decreed that "we must popularize the practice of one child for each couple, strictly control second births, and resolutely prevent additional births."[5]

This *Bulletin* traces China's demographic development and resulting shifts in population management since 1949 when the People's Republic was founded. It looks at overall population growth and policy responses, trends in mortality, fertility, population age-sex structure, and marriage, ethnic minorities, concern with population "quality" (education and eugenics), rural-urban distribution and resulting policies, evolution of the family planning program since 1971, and prospects for the future.

Population Growth

Before 1949

In historical times prior to 1650, China's population appears to have fluctuated between 60 and 100 million.[6] Beginning around 1685, however, there was steady growth from about 102 million people to an estimated 413 million a little over a century and a half later on the eve of the Western invasion in the late 1840s.

The population surge prior to the discovery and spread of modern medicine has been attributed to increased agricultural output made possible by the diffusion of imported foodplants (corn, potatoes, sweet potatoes, peanuts) and double- or triple-cropping encouraged by the introduction, for example, of improved, early-ripening varieties of rice.[7] These agricultural patterns—reinforced by high infant mortality—made it expedient for peasants to have large families; more hands meant greater immediate returns and more old age security. However, in the absence of technological change, the traditional labor-intensive, family-centered village economy had a built-in ceiling on growth. After the surge of population growth made possible by increased agricultural output and relative peace, the precarious balance between land and people was merely elevated to a higher plane. With internal strife, aggravated by external invasions from the 1840s onward, China's population fluctuated again, this time around the 400 million mark, to the mid-1940s.

Growth, 1949-1982

The establishment of the People's Republic in 1949 ushered in a period of unprecedented population growth, starting from a population estimated at some 540 million in 1949. Restoration of peace, extension of health and medical services—

especially in urban areas—and land reform combined to drastically reduce death rates from disease and famine. A rapid fall in death rates while birth rates remained high accounted for the first surge in population numbers, as seen in Table 2 (page 8).

Table 2 displays most of the population and vital statistics data available for the nation as a whole since 1949. Twenty years of neglect of demographic matters account for the evident shortage of data. Since the mid-1970s, however, demographic and population studies have been energetically resurrected. With financial and technical assistance from the United Nations Fund for Population Activities, China conducted the 1982 census and began to rebuild demographic institutions. More than two dozen major population institutes, numerous academic journals, and the China Demographic Society have recently come into existence.[8] The quantity of Chinese population statistics are sure to rise shortly to match the country's leading demographic status in the world.

Until the census of 1982, most Chinese demographic data have come from the censuses of 1953 and 1964 and the household registration system, established in the 1950s to record births, deaths, migration, and changes in household composition. These sources have been supplemented since the mid-1970s by statistics gathered and reported by "cadres" at all levels of the birth planning program. Both the census and registration data are known to contain errors and omissions.[9] Much of the census data was apparently not cross-tabulated and little was released, especially for 1964. The registration system was interrupted during the Great Leap Forward and following famine (1958-61) and during the Cultural Revolution (1966-69), and births and deaths, whether or not intentionally, have most probably often been underregistered. More recently family planning officials may have deliberately underreported births to show "accomplishment" in birth planning. However, spot surveys by outside researchers suggest that official figures on births, if not on infant mortality, are increasingly accurate.[10]

In preparation for the 1982 census, a checkup of the registration system was conducted throughout the country during 1981 and early 1982. The final census count for July 1, 1982, coincided almost exactly with the mid-1982 totals projected on the basis of registration for the country as a whole and also the 21 provinces, five autonomous regions, and three province-level municipalities—Beijing (the capital), Tianjin, and Shanghai. Chinese officials have claimed this coincidence as vindication of the registration system and proof of the accuracy of total population estimates officially released each year. Whether such a conclusion is appropriate is open to question. The census counted 3.2 million more births in 1981 than the figure based on household registration and revealed a rate of natural increase (births minus deaths) of 14.55 per 1,000 population that was considerably higher than the rate of "under 12" reported earlier from registration figures for 1981. It has also been suggested that the 1982 census total may represent an undercount of some 5 percent.[11] (The 1970 U.S. census was later estimated to have missed 2.2 percent of the population, while the 1980 U.S. census count of 226.5 million was 2.2 percent more than the 221.6 million that had been previously projected for the U.S. population as of the census date, April 1, 1980.)

Notwithstanding these reservations and the gaps and discrepancies evident in Table 2, the available statistics provide a reasonable picture of population growth in China since 1949.

From the 1840s to 1947, China's annual rate of natural increase averaged under 1 percent.[12] From 1949 through 1957 the rate rose well above 2 percent a year, largely due to the rapidly falling death rate, as seen in Figure 1. Over 104 million people were added in these eight years. This was the first of the two population booms

Table 2. Population Totals, Annual Increases, and Vital Rates: China, 1949-1982

Year	Year-end population	Net gain in year	Birth	Death	Natural increase
	(in millions)		(Rate per 1,000 population)		
1949	541.67	—	36	20	16
1950	551.96	10.29	37	18	19
1951	563.00	11.04	37	17	20
1952	574.82	11.82	37	17	20
1953	(582.60)[a]				
	587.96	13.14	37	14	23
1954	601.72	14.70	38	13.2	24.8
1955	614.65	11.99	32.6	12.3	20.3
1956	627.80	13.63	31.9	11.4	20.5
1957	646.53	18.25	34.0	10.8	23.2
1958	656.63	—	29.2	12	17.2
1959	—	6.77	24.8	—	10.2
1960	—	—	—	25.4	—
1961	—	—	18.1	14.3	3.8
1962	—	—	37.3	10.1	27.2
1963	691.22	—	43.6	10.1	33.5
1964	(694.58)[a]	—	39.3	11.5	27.8
1965	725.38	—	38.1	9.6	28.5
1966	742.06	16.68	35.2	8.9	26.3
1967	760.32	18.26	34.1	8.1	25.7
1968	781.98	21.66	35.8	8.3	27.5
1969	803.35	21.37	34.3	8.1	26.2
1970	825.42	22.07	33.6	7.6	26.0
1971	847.79	23.37	30.7	7.3	23.4
1972	867.27	19.48	29.9	7.7	22.3
1973	887.61	20.34	28.1	7.1	21.0
1974	904.09	16.48	25.0	7.4	17.6
1975	919.67	15.61	23.1	7.3	15.8
1976	932.67	12.97	20.0	7.3	12.7
1977	945.23	12.57	19.0	6.9	12.1
1978	958.09	12.85	18.3	6.3	12.0
1979	970.92	12.83	17.9	6.2	11.7
1980	982.56[b]	11.63[b]	—[b]	—[b]	12.0[b]
1981	996.22[c]	13.67	20.91[a]	6.36[a]	14.55[a]
1982	(1,008.18)[a]	—	—	—	—

Sources: Compiled from Tian Zueyuan, "A Survey of Population Growth Since 1949," and Hou Wenruo, "Population Policy," in Liu Zheng, et al, *China's Population: Problems & Prospects* (Beijing: New World Press, 1981) pp. 32-54 and 55-76; and various reports of the State Statistical Bureau, 1979-1982.

[a] Data from censuses of 1953, 1964, and 1982.

[b] Later official figures for 1980 are: net population gain: 10.64 million; birth rate: 16.98; death rate: 6.3; rate of natural increase: 10.64. See M. Li, "Rural Areas Are the Focal Point of China's Population Problem," *Renkoy yu Jingji (Population and Economics)*, No. 6 (1982) pp. 3-7.

[c] The State Statistical Bureau also estimated the 1981 year-end population at 1,004.50.

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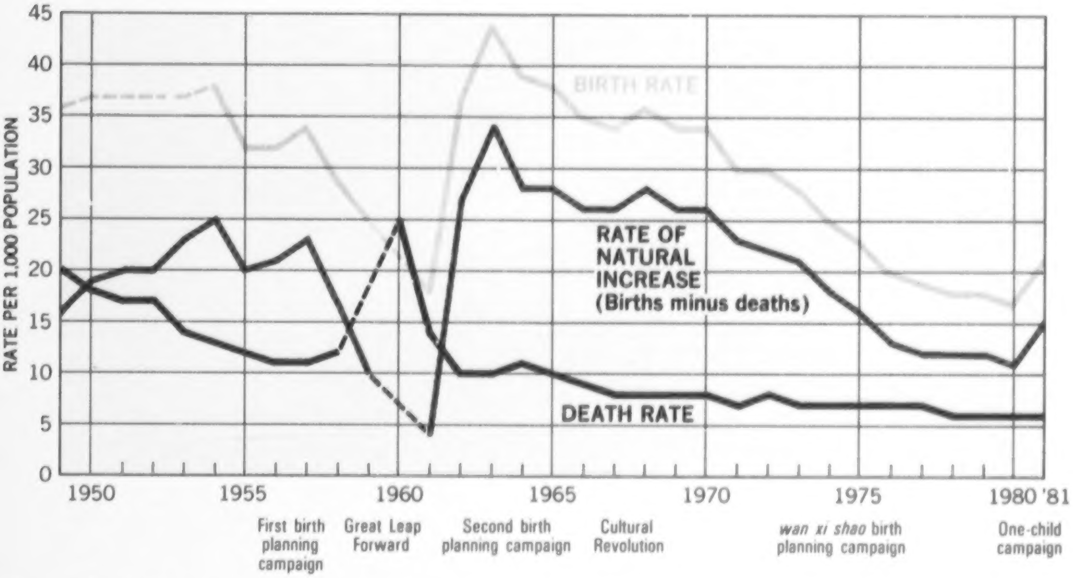
Figure 1. Birth, Death, and Natural Increase Rates: China, 1949-1982



Sources: See Table 2.

since the founding of the People's Republic, with the second coming between 1963 and the early 1970s.

The 1953 census reported a total of 582.6 million and the 1964 census a total of 694.6 million. The intercensal gain was nearly 112 million, or an annual average of over 2.3 percent. The reported gain would have been higher had it not been for the interruption of vital registration during the Great Leap Forward and the drop in births and rise in deaths during that period of economic turmoil when Mao Zedong launched a crash program to decentralize industry and collectivize agriculture, aggravated by crop failures and famine in 1960 and 1961.

Immediately after the crisis, population growth picked up, averaging over 2.6 percent a year from 1964 to 1970—the highest level since 1949. Of the total population increase of some 466.5 million between the end of the 1949 and the census of 1982, about 130 million, or 28 percent, occurred during these six years. Although the death rate continued to fall, the major component of this second population boom was the rise in births. In 1963, 1964, and 1965 the birth rate was around 40 per 1,000—higher than in the 1950s. Although birth rates for the rest of the 1960s were either similar to or slightly below those of the 1950s, and despite the dip in 1960-61, the 1960s stand out clearly as China's first true "baby boom" period.

Population numbers continued to mount during the 1970s, reaching 970.9 million by the decade's end. But the rate of natural increase averaged less than that of the 1950s and much less than that of the baby boom years. The drop to a reported rate of around 1.2 percent in 1979-80 reflected the country's determination to prune fertility during the decade.

Although the rate of natural increase at the beginning of the 1980s was lower than at any time since 1949 (except probably for 1959-61), the annual increase in absolute numbers has increased significantly with the continuing rise in the base population. For example, at least 14 million people were added in 1981 when the natu-

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ral increase rate (according to the 1982 census) was 1.5 percent—more than the 12 million added in 1955 when the estimated growth rate was 2 percent (see Table 2). With the cohorts of the baby boom of the 1960s and early 1970s about to enter the marrying and childbearing ages, a second baby boom could be in the offing with rising rates of natural increase and further increases in absolute numbers even if all couples were merely to reproduce themselves—i.e., an average of two children per couple. This is the background to the call in 1979 for the near-universal "one child per family."

Policy responses to population growth

As population numbers change, so do population theories and policies. Sun Yat-sen, found of the Chinese Republic in 1911, had called for an increase in numbers to preserve the Chinese race.[13] Though the pre-1949 population was large, its century-long stagnation was viewed with concern and attributed more to internal injustice and external exploitation than to socioeconomic backwardness.

Thus the surge of population growth after 1949, as confirmed by the census of 1953, was at first greeted with the optimism that prevailed in the aftermath of the successful revolutionary war. Population policy measures were aimed at reducing mortality. Those relevant to fertility directly or indirectly encouraged births; government workers, for example, received extra allotments for each child born. This optimism stemmed from the conviction that, as Communist Party Chairman Mao Zedong put it, "revolution plus production" would solve the problem of feeding and employing China's people.[14] It also echoed the interpretation at that time of the Chinese saying that has been a focus of all post-1949 population pronouncements—*dida wubo rendou*—"vast territory, abundant resources, immense population." *Rendou* can also mean "excess population," as was later stressed, but at the time the saying expressed the view that just as land and natural resources are assets to society, so are people. Mao Zedong proclaimed that "of all things in the world, people are the most precious. . . . As long as there are people, every kind of miracle can be performed."[15] Implicit in this pro-life formulation was a blend of optimism and concern about population matters.

Divergent interpretations of *dida wubo rendou*, however, soon gave rise to a debate on the role of population numbers in China's socioeconomic development so strident that meaningful discussion of the population issue was drowned out for two decades. Also at issue was whether people should be regarded as "hands" (producers) or "mouths" (consumers). In current terminology, the optimistic views of the 1950s may be labeled the "supply-side" perspective on population size and growth. This view sees each person as supplying a pair of hands—hands that, when better organized via revolution, enhance production. The larger the population, the greater the supply of hands, and thus the greater the total production. The pessimistic demand-side view stresses that each person comes with a mouth demanding to be fed gratis, immediately and until adulthood. Demand for goods and services inevitably shoots up as mouths (births) multiply, straining available resources.

The results of the 1953 census did give rise to some government concern and action. Abortion was legalized in 1953 and the first birth planning campaign was launched in 1956, though advocated mostly on the grounds of improving the health of mothers and children. Even Mao Zedong, in a 1957 speech that surfaced two decades later, called for a ten-year family planning program and declared that "as far as procreation is concerned, the human race has been in a state of total anarchy and has failed to exercise control."[16]

However, the first birth planning program came to an end with the start of the Great Leap Forward in 1958 and the supply-siders held forth. Social scientists who warned of the potential economic problems of continued rapid population growth were denounced as "Malthusianists." Chief among these was Ma Yinchu, who was removed from his position as president of Beijing University and rehabilitated only in 1978.

Population optimism was dimmed by the miscalculations of the Great Leap Forward of 1958-59 and the crop failures and famine of 1960-61. Open discussion of the population issue was not resumed, but a more pessimistic view of *rendou* as "excess population" led to the revival of the family planning program in 1962. This second drive to control population growth was derailed by the Cultural Revolution of 1966-69 when Red Guard activities cut off contraceptive supplies and the Central Party's control over the age at marriage broke down, so that people were free to marry early.

Wan xi shao. With the restoration of order, the third, *wan xi shao* family planning program was launched in 1971. The call came for an end to "reproductive anarchy" and "supply-side" population advocates lost out to demand-side demographics as it became clear that bare hands, however well organized, could not speedily put China's "vast territory" and "abundant resources" to most efficient use. Attention was turned to regulating human reproduction in proportion to "material production"—that is, the means to feed, clothe, and shelter people and to improve living standards. Beginning with the Fourth Five-Year Plan (1971-75) "China has brought population reproduction into the orbit of state economic planning."[17] To promote socialist development, it was necessary "to establish a population plan that is based on the principle of coordination between state guidance and mass voluntarism,"[18] in contrast to capitalist countries where family planning is left up to individual couples.

The relative silence on population numbers came to a close in 1976 with the death of Mao and the subsequent arrest of the "Gang of Four," a group of radicals led by Mao's widow. The party officials who emerged as national leaders were even more committed to birth planning than the previous leaders had been. These post-Mao leaders have given top priority to speeding up realization of "the four modernizations"—agriculture, industry, defense, and technology and science. Controlling population growth plays a key role in this effort. This policy was given official status with its incorporation into the revised constitution of 1978; Article 53 reads: "The state advocates and encourages birth planning." As noted, this constitutional dictum was upgraded in the revised constitution of 1982 to its being the "duty" of couples to practice family planning.

Shahid Husain

Controlling population growth has played a key role in China's development planning since 1971.

One-child campaign. The already strong family planning program was intensified with the launching of the one-child campaign in early 1979. In August 1979, Chen Muhua, head of the then Birth Planning Leading Group, formally endorsed the "demand-side" view of rapid growth in a *People's Daily* article entitled, "To Realize the Four Modernizations, It is Necessary to Control Population Increase in a Planned Way." She noted:

> "In the 25 years between 1953 and 1978, consumer income went up by 180 percent, an increase of *no* mean magnitude. But the population grew by 66.7 percent. As a result, per capita consumption gained by only one-third. Fifty-eight percent of the annual growth in consumption funds had to be diverted to meet the needs of the newly added population, leaving only 42 percent of the increase to improve the living standard of the initial base population. Take grain as an example. The grain output in 1977 was 565.5 billion catties (1 catty = 1.1 lb. or ½ kilo). Compared with the 1951 grain output of 287.4 billion catties, this represents a gain of 97 percent. However, the per capita availability of grain went up to 598 catties from 510 catties, an increase of only 88 catties, or 17.3 percent. . . . In our large country, with over 900 million persons, even a small rise in each individual's demand will produce a startlingly large aggregate figure, exerting great pressure on (for instance) the textile industry (when considering the question of clothing the people). The current market tension reflects not only insufficient output but also population pressure."[19]

Thus the pressure engendered by the population surge since 1949, particularly that of the 1960s, induced a change in theory and in policy. Regulation of population numbers is now defined as a task of "major strategic salience" in the overall plan to modernize the country.[20] This reaction to numbers is not necessarily negative but is also positively rationalized. Article 25 of the 1982 constitution declares: "The state promotes and pursues planned reproduction in order that the population growth will be in accord with various economic and societal development plans." In other words, the taming of fertility is a means rather than an end in itself.

Mortality Reduction

Shortly after 1949, China won a major battle against the ravages of disease, natural disasters, and wars. This set in motion the demographic developments that will undoubtedly double the 1949 population of 542 million well before the end of the century. The opener in this chain of events was a rapid reduction in mortality.

Between 1929-31 and 1938, China's crude death rate dropped from 41.5 per 1,000 population to 28.2. By 1950, the rate had descended to 18. Further steady reduction continued thereafter, except for the famine years of 1960 and 1961 (see Table 2, page 8, and Figure 1, page 9). The rate has been below 10 since the mid-1960s and now lies somewhere between 6 and 7. The 1982 census reported a death rate of 6.36 for 1981. Thus, in the short span of three decades, the reduction in the Chinese crude death rate amounted to as much as the decline in the U.S. death rate from 1800 to the 1970s. The U.S. rate fell to 9 in 1979 from around 27-28 at the beginning of the 19th century.

Restoration of peace in 1949 undoubtedly contributed a great deal to the Chinese mortality decline during the initial phase. One of the immediate effects was that continued high fertility increased the proportion of young people in the population. This accounts for part of the decline in the crude death rate which relates deaths to the total population; deaths are less likely among the young than among the elderly proportion of a population. Incomplete registration of deaths may also very well have exaggerated the mortality decline, particularly when registration depends on reporting after the fact by survivors.[21] Registration of infant deaths has probably been especially deficient, partly because of the practice of not registering births and deaths of infants who die shortly after delivery.[22]

Possible flaws in the data, however, cannot alter the basic fact that China's mortality decline since 1949 has been speedy and substantial. Health resources were too limited at the outset to account for the initial decline but the continuing decline can be largely attributed to subsequent expansion in the fields of public health and medical care, particularly during the Cultural Revolution

Table 3. Health Care Personnel: China, 1979, 1980, 1981

(Numbers in thousands)

Type	1979	1980	1981
Medical personnel			
College-graduated physicians	395	447	516
Graduates of secondary medical schools	435	444	436
Senior physicians trained in traditional and western medicine			2
Practitioners of traditional medicine	258	262	290
Nurses	421	466	525
Other[a]	1,133	1,179	1,242
Total	2,642	2,798	3,011 (2,948)[b]
Rural barefoot doctors	1,576	1,463	1,393

Source: State Statistical Bureau, *Statistical Yearbook of China 1981*, English edition (Hong Kong: Economic Information & Agency, 1982) pp. 477 and 479.

[a] Pharmacists and antiepidemic workers.

[b] Figure for health personnel in rural areas, of whom 1.485 million are identified as "qualified doctors, nurses, and pharmacists." Published in *Beijing Review*, No. 47, 1981, p. 8.

when medical personnel were dispatched throughout the country to initiate health care for the previously almost unserved rural population.

Health care resources

In 1949 China had about 505,000 "medical personnel." By 1981 the number had increased nearly sixfold to just over 3 million, while the total population had not yet doubled.[23]

Table 3 shows State Statistical Bureau data for 1979-81 on "medical personnel in health institutions" and part-time "rural barefoot doctors." Another source states that an additional 2.6 million "health workers and midwives" were at work in rural areas in 1981.[24]

Much of the credit for China's remarkable mortality decline is probably due to the basic preventive health measures and simple medical care, such as first aid treatment, dispensed by barefoot doctors in rural areas, of whom there were 1.4 million in 1981—about one for every 600 rural inhabitants. About a third of the barefoot doctors are women who include contraceptive counseling, IUD insertions, and sometimes abortions among their tasks. The burden of curative medicine, however, rests with physicians who have formal training in western and/or traditional medicine. Counting the graduates of secondary medical schools, there were 1.2 million of these physicians in 1981—nearly 3½ times the number in 1949. This amounted to 1.29 such trained physicians per 1,000 population compared to 0.74 per 1,000 in 1952.[25]

There were more than 2 million hospital beds in 1981, or about two per 1,000 population. Of these, 1.2 million reportedly were in rural hospitals.

China's rural health care system is organized on three levels. At the top are the more than 2,000 counties, which in 1981 each had its own general hospital, antiepidemic station, maternal and infant health clinic, health personnel training school, and one or more pharmacies. These are funded from the national budget. Below that are health centers at the commune level; 55,000 or 90 percent of communes had such a center in 1981, two-thirds established by the communes themselves and financed by county and provincial subsidies and user fees. There were 61,000 health stations operating in 1981 at the next lower level of the production brigade; these are funded by allocations from the brigade's welfare fund and user fees. Barefoot doctors work at this level and also go out to provide care to the 10 or so production teams which make up each production brigade. Production teams, the lowest level in rural China's administrative and production system, average 200-800 people.[26] Health care for urban dwellers is organized in a similar way, except that urbanites who work at large state enterprises can get free preliminary health care where they work. Others, like rural dwellers, pay for all health services, except for family planning.

Stanley Music

China's remarkable mortality decline owes much to rural barefoot doctors like these two in Sichuan province.

Life expectancy

China's State Statistical Bureau has reported that life expectancy at birth stood at 68 years in 1978, up from 57 years in 1957. For women, the average was 69 years, and for men, 67 years.[27]

The release in 1980 of age-specific mortality data collected in a 1975 countrywide survey of registered deaths provided outside researchers a rare opportunity to check officially reported Chinese figures for life expectancy. U.S. demographers Judith Banister and Samuel Preston calculated that, when adjusted for plausible estimates of underregistration, these data implied a life expectancy of 62-64 for both sexes combined in 1972-75, compared to 66 based on the unadjusted data.[28] They point out, however, that even the lower figures indicate that "China has probably gained on average over 1.5 years of life expectancy for each calendar year since [1949]. This is a record of sustained and rapid progress that has seldom been matched." At 62-64, China's expectancy was about 10 years above the United Nations estimate of life expectancy for developing countries as a whole in 1970-75—a record all the more remarkable in light of the fact that China's per capita GNP ($230 in 1978) was far below that of many of these countries.

There are still wide variations in life expectancy. Averages are higher in the more heavily populated and advanced northeastern provinces and coastal areas, which include the three largest cities—Beijing, Shanghai, and Tianjin—than in inland and border regions, such as Guizhou, Yunnan, Quinghai, Xinjiang, and Tibet. (See map on page 2 for location of these areas.) In 1973-75, the differences were almost 11 years for male life expectancy (69.9 versus 59.0 years) and more than 15 years among females (74.8 versus 59.5 years).[29]

Infant mortality

The remarkable gains in life expectancy reflect the great improvement in mortality overall and particularly much lowered rates of infant mortality. In the 1930s, estimates of infant mortality in different provinces ranged between 150 and 220 infant deaths under age one per 1,000 live births.[30] By the mid-1950s, reported rates had generally dropped to the low-30s to low-40s in urban areas and to about 75 in rural areas. For 1978, the reported rates were down to about 12 in urban areas and 20-30 in rural areas.[31] (The overall U.S. infant mortality rate in 1978 was 13.8.)

However, infant mortality rates markedly higher than the reported rates for 1978 appear to persist in many parts of the country. A major study conducted in 1977 revealed large regional and urban-rural variations. In 12 cities, the rate in 1974-76 averaged 14 per 1,000 live births. But 13 suburban counties reported an average of nearly 33 and in six rural counties in mountainous regions the rate was close to 64. In Sichuan, China's most populous province (nearly 100 million in 1982), household registration data for three counties indicated an infant mortality rate of 44 in 1977. Chengdu, Sichuan's capital, reported a rate of 15.8 for its eastern urban district and 19.7 for its western urban district. In the largely rural Shuangliu county, still within the

Table 4. Seven Leading Causes of Death Among Children Aged 0-14: Shuangliu County, Chengdu Municipality, Sichuan, 1974-1977

Cause of death	Number (percent)	Age of death			
		Under 1	1-4	5-9	10-14
Accidents	2,700 (29)	1,131 (23)	1,181 (38)	310 (36)	75 (27)
Diseases of infancy	1,724 (19)	1,724 (35)	—	—	—
Respiratory	1,641 (18)	1,009 (21)	557 (18)	65 (8)	10 (4)
Contagious	1,280 (14)	217 (4)	756 (24)	243 (28)	64 (23)
Gastrointestinal	590 (6)	232 (5)	244 (8)	84 (10)	30 (11)
Malnutrition	321 (3)	166 (3)	145 (5)	9 (1)	1 (—)
Congenital malformation	184 (2)	141 (3)	26 (1)	9 (1)	8 (3)
Other	762 (8)	288 (6)	245 (8)	144 (17)	85 (31)
Total	9,202 (100)	4,908 (100)	3,157 (100)	864 (100)	273 (100)

Source: *Shuangliu County Retrospective Infant and Child Mortality Investigation*, 1979.

Chengdu municipal boundaries, the rate averaged 71.9 in 1974-77.[32]

Findings in Shuangliu county (with a population of 744,000 in 1979) shed light on some aspects of infant and child mortality. Part of the 1977 national investigation, this local inquiry covered deaths among children aged 0-14 during 1974-77, as reported by parents and others in 1977 (see Table 4). There were 9,202 such deaths during these four years. Of these, 4,908 (53 percent) occurred to infants under age one. Tetanus and pneumonia, two age-old causes, accounted for 39 percent of the infant deaths. As shown in Table 4, 50 percent of the deaths among children aged 1-4 were due to diseases of the respiratory and gastrointestinal tracts and other contagious diseases. Accidents of all types, particularly drownings and asphyxiation, were also devastating. Malnutrition was still among the seven leading causes of deaths for infants under age one and children aged 1-4. Some 87 percent of Shuangliu's deaths among children under age 15 involved children under age 5.

Whether or not a retrospective study in one area accurately reflects infant and child mortality in rural China must, of course, await further verification.But in reporting these data, the parents and other respondents evidently believed in and would understandably be influenced by them. Infant and child mortality apparently remains unacceptably high in many of the rural areas where 80 percent of China's population lives. This is recognized as a major problem in the effort to promote the one-child-per-family norm. The Ministry of Health called in 1980 for reduction in rural infant mortality to below 25 per 1,000 live births, but termed it "an enormously difficult task." Among the incentives promised to couples who pledge to stop at one child are priority health care for that child at no cost. (As noted, most medical services require individual payments of some kind. All contraceptive services, however, are free.)

Fertility

China's reported crude birth rate has followed five different patterns since 1949: an almost flat line in 1949-54; wide fluctuations in 1955-65; a small downturn in 1966-69; a sharp drop during the 1970s; and an upturn from 1980 to 1981.

1949-54. As seen in Table 2 (page 8), the reported rate in this first period varied only from 36 to 38 births per 1,000 population. With the restoration of peace and production in these early post-revolutionary years, it might be expected that marriages and thus fertility at least varied from year to year. But the data show little indication of this. Thus the actual fertility level of this initial phase can only be roughly surmised. Some estimates by Chinese demographers at the time put the crude birth rate at or near 40 per 1,000 population.

1955-65. The reported rates were most volatile in this second period. (See also Figure 1, page 9.) The short-lived birth planning campaign of 1956-57 probably played some role in the marked drop in reported rates at the beginning of the period. But the sharp drop to 1961 probably resulted mostly from the chaos created by the Great Leap Forward in 1958-59 and the famine of 1960-61, accompanied by deterioration in birth registration in these four years. The sharp upturn in 1963-65 undoubtedly reflects both a boom in marriages and births to make up for the preceding four years and more accurate recording of births.

1966-69. A small downward movement in the birth rate during this third phase coincided with the Cultural Revolution. Encouraging fertility was not among its aims, but the Cultural Revolution in fact ended the second drive to limit fertility begun in 1962. Also, the "rustication" campaign during these years mobilized large numbers of urban youths to settle in the countryside and remote border regions and this evidently slowed marriage and reproduction during the second half of the 1960s. Another factor may have been voluntary fertility reduction in response to the depressed socioeconomic conditions, particularly in urban areas.

Despite the slight drop in the birth rate, close to twice as many people were being added to the population each year in the late 1960s as in the early 1950s (see Table 2). Fertility was still high, if declining slightly, and the death rate was much lower. Also, as noted, the considerable expansion in the base population size was beginning to make an impact. In absolute numbers, notwithstanding the sharp drop in the birth rate at the beginning of the decade, the 1960s turned out to be the most impressive Chinese baby boom of contemporary times.

1970-79. Immediately thereafter, however, a distinctly different fertility pattern quickly transpired. With the intensified efforts to promote population planning, the reported birth rate was nearly halved from 34 in 1970 to just under 18 in 1979. Chinese birth planning officials have calculated that this administratively induced fertility plunge reduced the country's daily total of births from nearly 75,000 in 1970 to about 47,000 in 1979. Overall, it averted more than 56 million births that would have occurred in 1970-79 if the birth rate had continued at the pre-1970 levels.[33]

1980-81. In its *1982 World Population Data Sheet,* published in April 1982, the Population Reference Bureau placed the Chinese birth rate at 22 and the rate of natural increase (births minus deaths) at 14 per 1,000 population. These estimates based on incomplete data compared well with the most recent official Chinese data. According to the 1982 census results released in October 1982, more than 20.7 million births occurred in 1981, yielding a birth rate of nearly 21 per 1,000 population. The rate of natural increase was 14.6.

As there is no evidence of unusual change in the death rate, these data indi-

Table 5. Population Age Composition and Median Age: China, 1929-31—1978

Year	Age group percent of total population						Median age (years)
	0-4	5-9	10-14	15-49	50-64	65+	
1929-31	13.5	11.9	9.8	51.3	10.1	3.3	—
1953	15.7	11.1	9.5	49.5	9.8	4.4	21.7
1964	14.4	13.6	12.4	47.8	8.8	3.5	19.4
1975	10.9	13.1	12.8	48.8	9.6	4.8	20.5
1978	9.7	13.2	13.0	49.3	10.0	4.8	21.5

Sources: 1929-31: C. M. Chiao, "A Study of the Chinese Population," *Milbank Memorial Fund Quarterly*, Vol. 12 (1934) Tables 6 and 10, pp 85-96; 1953, 1964, 1975: Adapted from Z. Liu, et al, *Renkou Tongjixue (Population Statistics)* (Beijing: Chinese People's University, 1981) p. 32; 1978: Calculated from Deqing Yang, et al, *Renkou Tongjixue (Population Statistics)* (Shijiazhuang, Hebei: Hebei People's Publishing Co., 1981) p. 135.

cate an upturn in the birth rate since 1980. This probably signals the start of a relatively long-term trend as the large cohorts of men and women born during the 1960s baby boom arrive at marriage and childbearing ages over the coming decade. Another influence, however, was the boom in marriages in 1981 among men and women in their early twenties, made possible by implementation of the 1980 Marriage Law (see page 20). This law set the legal age for marriage at 20 for women and 22 for men—considerably lower than the ages promoted in the interest of fertility reduction during the 1970s.

In September 1982, the State Birth Planning Commission initiated China's first fertility survey. Based on a one-in-1,000 sample of women of childbearing age throughout the country, the four-month survey was designed to obtain data for population planning and forecasts. When the findings are released, much more light will be shed on recent patterns and trends in marriage, fertility, and fertility limitation in China.

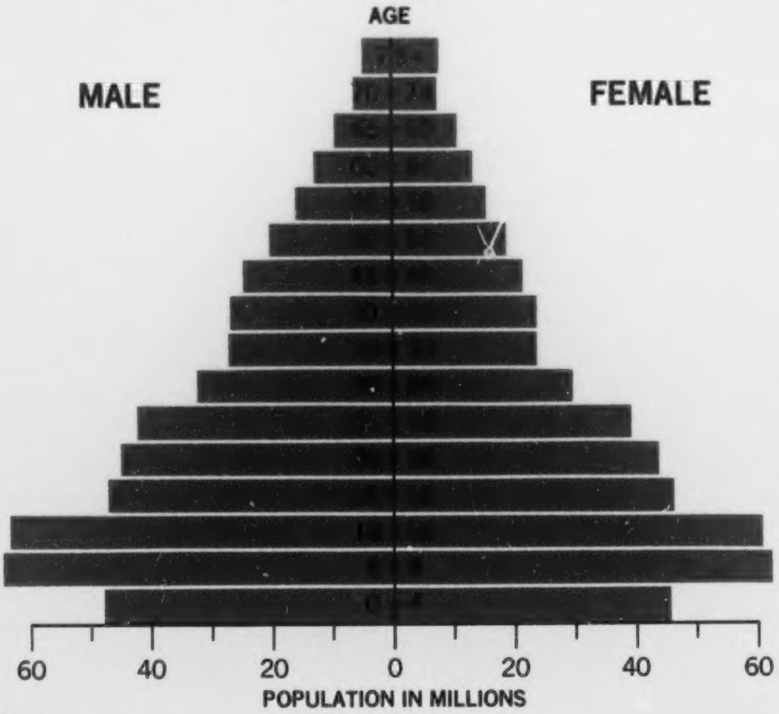
Age and Sex Composition

The age and sex composition of China's population—as in all populations—reflects past trends in fertility and mortality and, in turn, will have a strong bearing on future population growth. The available data on age and sex are particularly limited and must be interpreted with caution because of unknown margins of error. This should change with release of detailed data on age and sex from the 1982 census, expected in 1984.

Age composition

With relatively high fertility and low mortality during most of the nearly 3½ decades since 1949, China has been and is still a "young" population. As seen in Table 5, children under age 15 comprised 36 percent of the total population in 1953, slightly more than in 1929-31. This proportion climbed to over 40 percent at the time of the 1964 census and had shrunk only to just under 36 percent in 1978. The percentage of children under age five has changed most, reflecting swings in the birth rate: up to more than 14 percent of the total population at the peak of the 1960s baby boom in 1964 and down to just under 10 percent in 1978 as the 1970s "baby bust" was played out. Meanwhile, the proportion of elderly persons aged 65 and over remained below 5 percent. As a result, China's median population age was still a low 21.5 years in 1978. (The U.S. median population age was 29.5 in 1978.) With the birth rate declining rapidly—at least to 1980—and the death rate remaining low, the population will age rapidly from now on. This will be particularly true if the one-child family does indeed become universal in the near future. U.S. demo-

Figure 2. China's Population Age-Sex Composition: 1978.



Source: See Table 6.

grapher Ansley Coale has calculated that with a fertility decline fast enough to achieve zero population growth by the year 2000 (the original target of the one-child campaign), by 2035 about one-quarter of the total population would be over age 65.[34] This compares with a current 10 to 15 percent in developed countries (just over 11 percent in the U.S.), where social security for the elderly is already a large burden on national budgets.

For the next two decades, however, the proportion of the population that supports the elderly, those in the working ages of 15-64, will grow rapidly as the children of the 1960s baby boom enter these ages. That cohort is represented in the extra wide bars at ages 5-14 in China's age-sex population pyramid for 1978 (see Figure 2). If the birth rate resumes its downward trend of the 1970s, the increasing proportion of the elderly will be offset by a rapidly declining proportion of children under 15 and the dependent share of the population (those aged 0-14 plus those of 65 and over) will drop from 41 percent in 1978 to about 20 percent in 1990.[35]

The entry of the large 1960s baby boom cohort into adulthood could also change that scenario, however. With so many of them due to marry during the rest of the 1980s and in the 1990's, numbers of births and the crude birth rate will inevitably rise unless each couple's family size can indeed be sharply restricted.

Sex ratio

The emancipation of women has made great strides in modern China, but the popular saying, "Women hold up half of the sky," is not yet true numerically speaking. China is still one of the few countries in the world, along with India and a few others in Asia, where men out-

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Table 6. Population Sex Composition: China, 1953, 1978, and Local Area, 1980

Age group	1953 Sex ratio[a]	1978 Total	1978 Males	1978 Females	1978 Sex ratio[a]	1980 Sex ratio[a] (local)
		Numbers in thousands				
0-4	106.3	93,201.9	48,034.8	45,167.3	106.3	105.5
5-9	112.0	126,601.4	64,691.0	61,910.0	104.5	105
10-14	112.2	124,058.1	63,589.8	60,468.3	105.2	105
15-19	111.3	93,214.9	47,390.5	45,824.4	103.4	104
20-24	111.6	88,875.8	45,409.0	43,466.8	104.5	110
25-29	112.0	81,118.5	42,208.4	38,910.1	108.5	113
30-34	112.5	61,389.8	32,175.9	29,213.9	110.1	113
35-39	109.4	50,712.3	27,169.9	23,542.4	115.4	107
40-44	107.7	50,392.2	26,915.3	23,476.9	114.6	119
45-49	105.6	45,832.2	24,446.4	21,385.8	114.3	118
50-54	102.8	38,555.8	20,160.8	18,395.0	109.6	116
55-59	99.0	31,275.2	16,004.5	15,270.7	104.8	111
60-64	96.9	25,904.1	12,894.1	13,010.0	99.1	103
65-69	93.7	19,755.1	9,470.0	10,285.1	92.1	96
70-74	93.3	13,702.2	6,169.9	7,532.3	81.9	88
75 and over	68.2	12,764.8	5,075.8	7,689.0	66.0	76
Total	107.7	957,354.3	491,806.5	465,547.8	105.6	106

Sources: 1953: Adjusted from Y. C. Yu, "The Demographic Situation in China," *Population Studies*, Vol. 32, No. 3 (November 1978) Table 5, p. 442; 1978: Adapted from Yang Deqing, et al, *Renkou Tongjixue (Population Statistics)* (Beijing: 1981) p. 135; 1980: local data from Bingjin Zhuang and Xinmei Huang, "A Projection of the Population of Three Countries in Zhejiang Province," *Renkou Yanjiu (Population Research)*, No. 3 (1981) Table 1.

[a] Sex ratio = number of males per 100 females.

number women in the total population. The preliminary 1982 census release reported 30.7 million more men than women and a sex ratio of 106.3 men per 100 women. This was an upturn from the overall sex ratio of 105.6 for 1978 shown in Table 6 and a reversal in the declining trend evident from the few available data. In 1929-30, the countrywide estimated sex ratio was 109 men per 100 women. The 1953 census indicated a sex ratio of 107.7, and the 1964 census a sex ratio of 105.5 men per 100 women. (The sex ratio in the U.S. at the time of the 1980 census was 94.5 men per 100 women.)

Derived from presumably official sources, Table 6 shows sex ratios and numbers of men and women by age for the country as a whole in 1978, countrywide sex ratios by age based on the 1953 census, and similar sex ratios from one local study for 1980. All three sets of statistics indicate that women are outnumbered by men throughout infancy, adolescence, and the childbearing ages. At ages 30-49, the excess of men over women ranged up to 15 percent in 1978 and even higher in the local data for 1980 (Table 6, last column). The sex imbalance at these ages suggests that maternal mortality remains relatively high. But the main explanation for the overall excess of men is the persistence of the traditional preference for males. In the past and still today, this has led both to underreporting of females, especially infants, and female infanticide or at least maltreatment that endangers women's health and survival.

Male preference has resurfaced strongly with the one-child campaign. The recent rise in the sex ratio could be partly due to underreporting of female births by parents who deliberately avoid registering a firstborn female child in order to have another chance. Also, reports of female infanticide are increasingly frequent.[36]

The country's leaders are trying to combat the age-old male preference. Billboards and pamphlets advocating the one-child family invariably show adoring parents with a single small happy daughter. In his report on the Sixth Five-Year Plan (1981-85) which was approved by the National People's Congress in December 1982, Premier Zhao Ziyang stated:

> "Persuasive education must be conducted among the people of the whole country, especially among the peasants, to change radically the feudal attitude of viewing sons as better than daughters. . . A couple that has only one daughter and brings her up well deserves greater commendation, support and reward than a couple that has only one son. . . The whole society should resolutely condemn the criminal activities of female infanticide and maltreatment of the mothers, and the judicial departments should resolutely punish the offenders."[37]

Changing feudal attitudes will be difficult in rural China, however, Among China's peasant majority girls are still not accepted as equal workers or adequate old-age security. Of couples signing the one-child pledge, two-thirds are the parents of baby boys.[38]

Marriage

Marriage is a particularly important variable in Chinese fertility since births occur almost exclusively within marraige, virtually all men and women marry at the earliest permissible age, and newlyweds traditionally practice no contraception before the first pregnancy.

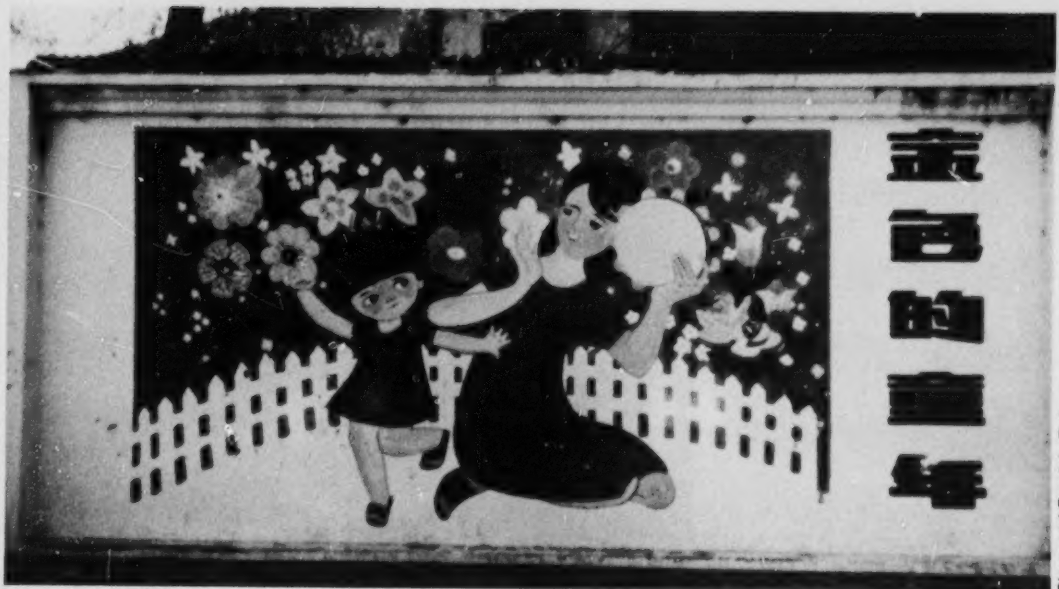
Data prior to 1949 indicate that age at marriage averaged 17-18 for women and 20-21 for men; 90 percent of women married before age 20 and few of either sex remained single after age 25. To discourage marriages even earlier than the average and arranged marriages, the Marriage Law of 1950—the first social legislation of the People's Republic—set the minimum legal age for marriage at 18 for women and 20 for men. Though not overtly aimed at population control, this paved the way for emphasis on marital postponement in the later birth planning campaigns, beginning with the first in 1956-57.[39]

Delayed marriage became the leading injunction in the *wan xi shao* campaign of the 1970s and a major factor in the rapid fertility decline of that decade. Administrative rules, going far beyond the terms of the 1950 Marriage Law, prohibited marriage before 23 for women and 25 for men in rural areas and 25 and 28 in urban areas. Typically, a prospective bride and groom could not obtain the "letter of introduction" required from the heads of their work units in order to marry until their combined ages added up to 50 or 52.[40]

A "late marriage rate" became a measuring rod for evaluating program success at the grassroots level. This was calculated as the percentage of couples married in a calendar year who conformed to the rural 23/25 and urban 25/28 rules. The higher the rate, the greater the praise for the local birth planning unit.

1980 marriage law

The long-run intent of this heavy stress on delayed marriage is to lengthen the time between generations and thus reduce population growth over the long term. However, as seen in the 1970s, the short-run reduction in fertility can also be considerable if a large number of young people delay marriage. Conversely, a sudden rush of earlier marriages can virtually ensure a sharp rise in the birth rate a year later. This is what happened in China after the new marriage law of 1980 went into effect on January 1, 1981. The law raised the legal age for marriage to 20 for women and 22 for men, but in fact made it possible for young people to marry from three to five years earlier than had been allowed during the 1970s.



Diane and Frank LeRoi

To combat traditional male preference, billboards advocating the one-child family invariably show adoring parents with a single, happy daughter, like this one which extols "the Golden Age of Childhood."

Why were Chinese authorities persuaded to relax the marriage age restrictions from which the country had derived considerable benefit? One answer seems to be that the policy was seen to be creating potentially serious social frustration. This is suggested by the fact that rape was listed prominently among severely punishable crimes in the revived criminal code of 1979. Also, as pointed out by Kang Kequing, Chairperson of the All-China Women's Federation, the stringent restrictions had prompted an increase in the number of couples living together before marriage and revival of the old custom of holding "weddings" among family members and friends to gain social recognition if not legal sanction. Counting in informal premarital unions and unregistered "social" marriages, the actual ages for initiating sexual intercourse had probably averaged around 21-22 for women and 23-24 for men.[41] Lowering the permissible ages for marriage to 20 and 22 would bring policy closer to socio-demographic realities, help reduce unregistered "marriages" and premarital unions, and lessen tensions among young people already frustrated by the lack of employment opportunities.

The Chinese experience thus demonstrates the limitations of dictated late marriage as a long-term means of population control. With the restrictions off, first marriages were officially projected to climb to at least 14 million in 1981—more than twice the number in 1980. This undoubtedly accounts for much of the rise in the birth rate in 1981 and will make it much harder to attain low population growth targets in the next few years.

However, it is the coming-of-age of the 1960s baby boom cohorts that will keep marriages high; some 11-14 million marriages are expected annually over the next 15 years. Without a change in contraceptive patterns, a second baby boom that could dwarf that of the 1960s will inevitably follow. Recent surveys indicate that 65 percent of Chinese women become pregnant within three months after marriage and more than 85 percent are pregnant within the first year. The main reasons are evidently the lack of any contraceptive efforts before the first pregnancy, along with high frequency of intercourse during the most fertile ages and premarital pregnancy.[42]

Although late marriage is still being

promoted, birth planning officials recognize that this is no longer sufficient with the prospective surge in the fertile-aged population and have recently given more emphasis to "late reproduction"—contraceptive use at the outset of marriage to avoid immediate childbearing.

Ethnic Minorities

Often masked by the term "Chinese" is the fact that the country's population includes 55 ethnic minorities besides the dominant Han. Some of the "subnationalities" number only a few thousand people each, but at least 13 groups, according to a 1978 estimate, number over a million (see Table 7). The 1982 census counted a minority population of 67.2 million. This was only 6.7 percent of the total population but China's minorities have a political and economic significance disproportionate to their numbers. This is because they are mostly concentrated in some 55 percent of the country's territory, much of it relatively sparsely populated and unsuitable for agriculture but rich in oil, minerals, forests and pastoral plains, and most of those areas are strategically sensitive border regions like Xinjiang, Inner Mongolia, Tibet, and Yunnan (see Table 7 and the map on page 2). Mao Zedong stipulated in 1957 that fertility limitation "should not be promoted in the minority nationality areas."[43] Until recently, well-

Table 7. Ethnic Minorities: China, 1953 and 1978

Ethnic group (Area of concentration)	Number (in thousands) 1953	1978
Mongolian (Inner Mongolia, Zinjiang, Gansu)	1,460	2,660
Hui (Ningxia, Gansu, Henan, Hebei, etc.)	3,560	6,490
Tibetan (Tibet, Qinghai, Sichuan, etc.)	2,770	3,450
Uighur (Xinjiang)	3,640	5,480
Miao (Guizhou, Hunan, Yunan, Guangxi)	2,510	3,920
Yi (Yunnan, Sichuan, Guizhou)	3,250	4,850
Zhuang (Guangxi, Yunnan, Guangdong	6,960	12,090
Buyi (Guizhou)	1,250	1,720
Korean (Jilin, Liaoning, Heilongjiang)	1,120	1,680
Manchu (Liaoning, Jilin, Heilongjiang)	2,420	2,650
Tong (Guizhou, Hunan, Guangxi)	710	1,110
Yao (Guangxi, Hunan, Yunnan, Guizhou, etc.)	670	1,240
Dai (Yunnan)	570	1,050
Tujia (Hunan, Hubei)	590	770
Hani (Yunnan)	480	960
Kazak (Xinjiang, Gansu, Qinghai)	509	800
Thai (Yunnan)	470	760
Li (Guangdong)	360	680
Lisu (Yunnan)	317	470
Va (Yunnan)	286	260
She (Fujian, Zhejiang, Jingxi, etc.)	219	330
Gaoshan (Fujian)	200	300
Lahu (Yunnan)	139	270
Shui (Guizhou)	133	230
Dongxiang (Gansu)	155	190
Naixi (Yunnan)	143	230
Jingpo (Yunnan)	100	83
Kirgiz (Xinjiang)	70	97
Tu (Qinghai)	53	120
Daur (Heilongjiang, Xinjiang)	440	78
Mulam (Guangxi)	18	31
Qiang (Sichuan)	35	85
Pulang (Yunnan)	35	52
Salar (Qinghai, Gansu)	30	56
Maonan (Guangxi)	18	31
Gelo (Guizhou)	43	73
Xibe (Xinjiang, Liaoning)	19	44
Achang (Yunnan)	17	18
Tajik (Xinjiang)	14	22
Other[a]	133	370
Total	35,520	55,800

Source: Zhang Tianlu, "Promote Population of the Minorities According to Plan and Stimulate Prosperity of the Nationalities," *Renkou yu Jingji (Population and Economics)*, No. 1 (1980) pp. 27-34.

[a] Other ethnic groups include the Pumi, Nu, Eluosi, Ewenki, Benglong, Bonan, Yugur, Jing, Tatar, Drung, and Orogen.

publicized reports have hailed rapid population growth among the minorities, crediting it to improved living conditions and wider diffusion of medical services. The 1982 census indicated that the minority population had grown by 68.4 percent, or 27.3 million, since 1964, compared with an increase of 43.8 percent, or 285.4 million, among the Han majority.

Now, however, the decision to exempt ethnic minorities from the national drive to limit fertility seems to have been all but officially rescinded. In 1980 it was stated that minority population growth should be "in a controlled manner."[44] The plans for stepped-up population control issued by the Communist Party Central Committee in December 1982 included the injunction, "We should also promote family planning among national minorities," though adding the reservation, "but we may relax the demands for them as appropriate."[45] Since July 1982, the Li and Miao minorities on the island of Hainan in the South China Sea have been limited to four children per couple and there have been unconfirmed reports that family planning is being encouraged among larger minorities in heavily populated areas, such as the Dai in Yunnan and the Zhuang in Guangxi.[46]

Education and Illiteracy

Upgrading the skills and productivity of China's masses of workers is recognized as a key to hastening the "four modernizations"—of agriculture, industry, defense, and technology and science—that have shaped the country's plans for economic development since the mid-1970s. Rapid population growth and budgetary constraints, however, make this a formidable task.

The 1982 census findings released in October 1982 provide the latest statistics on educational attainment of the population.[47] At the upper end of the scale, only 0.6 percent of the population, or just over 6 million people, have some university education (graduates, current undergraduates, and dropouts). Some 6.6 percent—66.5 million—have at least some senior middle school education. Graduates, those currently enrolled, and dropouts for the junior middle school level comprise 17.7 percent of the total population, or 178.3 million, and for the primary school level the figures are 35.3 percent, or 355.2 million people. In the late 1970s, it was estimated that more than one-half of government workers had not gone beyond primary school. The 1982 census also reported that 235.8 million people aged 12 and older—23.5 percent of the total population—declared themselves as illiterate or semi-illiterate—defined as unable to read or able to read only a few words.

These figures, nevertheless, represent some gains. The percentage of illiterates and semi-illiterates, for example, had dropped from the 38.8 percent registered by the 1964 census. The proportion with at least some primary school education was up from 28.3 percent in 1964, and the university figure was up from 0.4 percent.

As shown in Table 8 (page 24), excluding infants in nurseries, some 206 million students were enrolled in schools of all types in China in 1980. Of these, only 29 percent were enrolled above the primary school level. Some 6 to 7 percent of primary-school-aged children were not enrolled in school.

Based on sample surveys of 1975 and 1978, one scholar estimated that in 1980, China had 322.6 million children and adolescents aged 6-18 born during the baby boom years of 1962-74. He calculated that, unless educational facilities expand rapidly, at least 20 million of these children will reach adulthood as illiterates; 36.4 million will have to stop with a primary school education; 133.4 million will find no place in senior middle schools; and less than 1 percent will go on to university.[48]

During 1979-81, new admissions to colleges and universities averaged about 275,000 a year (Table 8). In 1981, 1.28 million students were enrolled in 704 in-

Table 8. School Enrollment: China, 1978-1981

(Numbers in thousands)

Level	1978	1979	1980	1981
Colleges and universities				
(Number of schools)	(598)	(633)	(675)	(704)
Total enrollment	856	1,020	1,144	1,280
New admissions	—	275	281	271
Students abroad	—	1.8	2.1	—
TV universities	—	280	324	—
Factory-run and evening colleges	—	580	455	—
Polytechnic schools	889	1,199	1,243	1,069
Middle schools				
General	65,083	59,050	55,081	48,600
Technical	—	640	680	670
Agricultural and Vocational	—	—	454	—
Primary schools	—	146,630	146,270	143,330
Nurseries	—	8,790	11,510	—

Sources: Various reports and communiques presented to the Third and Fourth Sessions of the Fifth National People's Congress, August 30, 1980, and December 1, 1981; Ministry of Education, August 26, 1982; and *Xinhua Yuebao (New China Monthly)*, No. 9 (1982) p. 129.

stitutions of higher learning of all kinds. To increase university admissions to 10 percent of the population of college age would take annual admissions of 2.4 million—nine times the annual average of 1979-81.[49]

But there are formidable obstacles to rapid expansion of university facilities, beginning with the shortage of faculty. At the end of 1981, there were only 5,078 full professors in the country, 22,541 associate professors, and 128,386 lecturers. Half of the full professors and virtually all faculty at lower levels had received their credentials only since 1978.[50]

Financial constraints are an obstacle to rapid expansion of education at all levels. Overall expenditure for education is now at an all-time high. Allocations for "culture and education, health, and science" amounted to about 11 percent of the national budget during the Fifth Five-Year Plan (1976-80) and are to increase to 15.9 percent during the Sixth Five-Year Plan (1981-85). By 1985, annual admissions to university are projected to reach 400,000, a 48 percent increase from the 1981 figure. But the total yearly enrollment will rise only slightly to about 1.3 million, from 1.28 million in 1981.[51]

Women and education

School admissions in China are also subject to other more subtle barriers. In theory, women and men are entitled to the same educational opportunities. In reality, however, sexual inequality in education still prevails.

In "old China" more than 90 percent of women were illiterate. Before 1949, women accounted for only one-quarter of primary school pupils, 20 percent of middle school enrollment, and just 18 percent of college students. By 1958 there was considerable improvement; nearly 39 percent of primary school children were females and women's share of university enrollments was almost up to 24 percent. Figures reported in early 1981 indicate that girls still fall short of 50 percent of primary school enrollments, which perhaps reflects the sex ratio at birth (105 to 106 males are born for every 100 females in most countries). However, their proportion in middle schools was barely 40 percent and women still accounted for a mere 25 percent in universities and colleges.[52]

Shahid Husain

Nearly all Chinese children now attend primary school, but increasing enrollment at higher levels faces formidable obstacles.

Quality via Eugenics

Health is as important as education in the stress on "better" hands over more hands which Chinese policymakers now see as the key to a speedy economic breakthrough. Better health as part of improved population quality has become particularly important with the advent of the one-child-per-family campaign. Couples restricted to one child need extra reassurance that that child will be healthy. Guaranteeing healthy babies has come to mean "quality control" via prenatal and premarital measures as well as better postnatal care of the new generation.

Congenital malformation among infants has been estimated as high as 20 per 1,000 births. Retarded children and adults are said to have totaled more than 10 million in 1979.[53] Concern with such findings has led to the inclusion of eugenics as one component of China's rapidly expanding population studies.[54] Also, Article 6 of the 1980 Marriage Law specifically prohibits marriage among persons who "are direct blood relations, collateral relatives within three generations, and lepers or carriers of diseases medically deemed to be unfit for marriage."

The ban on marriage among close relatives is of special interest. One study estimated that 3 to 9 percent of infants born to couples who are first cousins are affected by hereditary diseases, compared with barely one-tenth of 1 percent among offspring of marriages of unrelated persons. One writer recently warned: "As marriages are very prevalent among close relatives and persons of same surnames in our nation's vast countryside and mountainous districts . . . prevention of marriages of this type cannot be delayed even one minute."[55] This warning raises a major question about China's current population distribution policy. As seen in the next section, geographic mobility is now being strictly controlled in order to enhance stability in rural and urban areas. This policy may inadvertently increase the possibilities of marriage among close relatives in the many small villages where the majority of the population resides. This demonstrates how contradictions may arise between different population policy measures.

The revival of eugenics may be as important as the control of population size. Slower growth via fertility control "buys" time for the country to improve the quality of life. But will the application of eugenics improve the quality of babies? This is an intriguing question and developments in this area warrant close attention.

Population Distribution and Policy

China's immense population is very unevenly distributed across the country's 9.6 million square kilometers—the third largest national land area in the world, after the Soviet Union and Canada. Just under 11 percent of the land is cultivated. Most of this arable land is concentrated in 12 eastern provinces along the coast and largest rivers (Anhui, Fujian, Guangdong, Hebei, Henan, Hubei, Hunan, Jiangsu, Liaoning, Sichuan, Shandong, and Zhejiang) and in the areas administered by the three largest cities or municipalities—Beijing (the capital), Shanghai and Tianjin (see map on page 2). Seventy percent of the country's total population in 1982 lived in these 12 provinces and three province-level municipalities and population density reaches very high levels (see Table 9). For example, there are from 356 to 590 persons per square kilometer in Anhui, Jiangsu, and Zhejiang in the East region and in Hunan and Shandong in the North region. (The most densely populated state in the U.S.—New Jersey—had 596 persons per square kilometer in 1981.[56])

By contrast, population is sparse in the mostly mountainous, cold and dry western regions. Density ranges from only 1.6 to 59 persons per square kilometer in Tibet (in the Southwest region) and in Inner Mongolia, Ningxia, Gansu, Qinghai and Xingjiang (in the Northwest region). These six autonomous regions and provinces take up about 55 percent of the nation's land area but included barely 6 percent of the total population in 1982.

Various measures have been tried over the years to fill the border regions with the surplus population from the cities and densely populated rural areas of the east. During the 1950s there were large-scale planned transfers of settlers to Gansu, Qinghai, Zinjiang, and Inner Mongolia. Faced with inadequate government support, poor soil and the harsh climate, however, much of the resettled population has since returned home. Similarly, most of the tens of thousands of urban youth sent to remote border regions during the "rustication" campaign of the Cultural Revolution have apparently returned to their native cities. China's regional population distribution was as unbalanced in 1982 as in 1953 or 1964. All this makes it unlikely that moving people to China's less densely populated areas can be counted on as a major means of relieving the mounting population pressures in the east of the country.

Urban distribution and growth

High population density in the eastern provinces reflects not only their hugh rural populations but also the concentration of urban population. In 1953, only a few of the then 166 municipalities, or cities, were in the sparsely inhabited provinces and most of them had fewer than 100,000 people. For reasons of national security and to encourage economic development in the interior, steps were taken to relocate old factories and build new ones away from the coastal cities. This had an impact on distribution of the urban population already by the late 1950s. In 1947, nearly two-thirds of China's urban population resided in the eastern coastal provinces and municipalities. By 1973, more than half of the urban population lived in the western part of the country (see Table 10, page 28).

The 1982 census reported 144.7 million persons in 236 cities and 61.9 million in 2,664 towns. The urban population (206.6 million) thus amounted to 20.6 percent of the total population. The 1982 census report stated that this was up from an urban population of 127 million, 18.4 percent of the total population, at the time of the 1964 census. The 1953 census had indicated an urban proportion of 13.3 percent, and in 1949 the proportion was approximately 11 percent. This suggests that the pace of urbanization has been very slow over the 3½ decades since establishment of the People's Republic, due both to rapid growth of the rural population and numerous measures to discourage migration to cities. (The true rate of urbanization is difficult to determine because China's reported figures on urban population are particularly confusing. For example, the figure of 2,900 "urban places" indicated in the 1982 census release was lower than the total of "more that 3,400" cited in various sources in the late 1970s and much lower than the 1953 census figure of 5,568 ur-

Table 9. Population of Provinces, Autonomous Regions, and Province-Level Municipalities, 1953, 1964, and 1982, and Population Density, 1964 and 1982

Provinces, autonomous regions, province-level municipalities	Population (in millions)			Persons per square kilometer	
	1953	1964	1982	1964	1982
National total	583.16[a]	685.55[a]	1,008.18	74	101
Northeast					
Heilongjiang	11.90	21.39	32.67	43	69
Jilin	11.29	17.89	22.56	84	120
Liaoning	20.56	29.50	35.72	185	245
North					
Hebei	37.88	41.41	53.01	210	282
Shanxi	14.31	12.35	25.29	116	162
Beijing municipality	2.77	7.57	9.23	452	549
Tianjin municipality	2.69	4.28	7.76	553	687
Shandong	48.88	55.52	74.42	363	486
Henan	44.21	50.32	74.42	301	446
East					
Anhui	30.66	31.24	49.66	224	356
Jiangsu	40.93	44.50	60.52	434	590
Shanghai municipality	6.20	10.82	11.86	1,745	1,913
Zhejiang	22.87	28.32	38.88	278	382
Central					
Hubei	27.79	33.70	47.80	180	255
Hunan	33.23	37.18	54.01	177	257
Jiangxi	16.77	21.07	33.18	126	199
South					
Fujian	13.14	16.76	25.87	138	213
Guangdong	36.74	42.80	59.30	101	280
Guangxi Autonomous Region	17.59	20.84	36.42	101	158
Southwest					
Guizhou	15.04	17.14	28.55	97	162
Sichuan	65.68	67.96	99.71	120	176
Yunnan	17.47	20.51	32.55	52	83
Tibet Autonomous Region	1.27	1.25	1.89	1.0	1.6
Northwest					
Inner Mongolia Autonomous Region	7.33	6.24	19.27	10	16
Shaanxi	15.88	20.77	28.90	101	141
Ningxia Autonomous Region	1.94	2.16	3.90	32	59
Gansu	11.59	12.65	19.57	28	43
Qinghai	1.68	2.14	3.90	3	5
Xingjiang Autonomous Region	4.87	7.27	13.08	5	8

Sources: Population: 1953: Hu Huanyong, et al (eds.), *Renkou Yanjiu Lunwenji (Papers on Population Studies)* (Shanghai: East China Normal University Press, 1988) p. 18; 1964: Liu Zheng, et al, *Renkou Tongjixue (Population Statistics)* (Beijing: Chinese People's University Press, 1981) pp. 62-63; 1982: State Statistical Bureau, *Communique on Major Figures in the 1982 Population Census*, Xinhua-English, Beijing, October 27, 1982, in Foreign Broadcast Information Service, No. 82-208, October 27, 1982. Persons per square kilometer: Population Analysis Section, General Office of the Census and State Statistical Bureau, 1982.

[a] Discrepancies between these totals and the 1953 and 1964 totals in Table 2 (page 8) are due to possible "errors" in the original sources.

ban places. In September 1981 it was reported for the first time that the 1964 census had counted an urban population of 97.91 million, but the 1982 census release revised the 1964 urban total upward to 127 million.[57])

Table 10. Regional Distribution of Urban Population: China, 1947-1976

Region	1947	1964	1973	1976
Eastern coastal area[a]	65.3	53.3	47.3	47.8
Western part[a]	34.7	46.5	52.7	52.2
Total	100.0	100.0	100.0	100.0

Source: Youren Wu, "Socialist Urbanization in Our Nation," *Renkou yu Jinghi (Population and Economics)*, No. 2 (1980) pp. 7-12.

[a]The eastern coastal area contains 30 percent and the westen part contains 70 percent of China's total land area.

Since the 17th century, Chinese political scientists have proclaimed that "When the masses dwell in villages, order prevails; when the masses flock to cities, disorder ensues."Mindful of this dictum, Chinese authorities have attempted to halt the cityward movement of rural population since the "blind infiltrations" of the 1950s, which reached a crescendo during the Great Leap Forward of 1958-59. These efforts have included projects to increase employment in rural areas, rules on food rationing and household registration that discourage unauthorized migration, recruiting large numbers of city dwellers for work in rural areas, and "rustication" campaigns of the 1960s and 1970s that sent more than 12.5 million urban middle school graduates to the countryside.[58] Though many of the relocated urban youth seem to have found their way home, the combined anti-urbanization efforts probably did help to slow the pace of urbanization.

However, urban planners have been less successful in stemming the growth of very large cities, which has been another important goal. Chinese cities, or municipalities, are ranked as extra-large (1 million or more people), large (500,000 to 1 million), medium (300,000 to 500,000), and small (20,000 to 300,000). As shown in Table 11, more than 20 small cities "disappeared" into the higher size-classes between 1953 and 1979. Both the medium and large cities more than doubled in number, and by 1979, there were 29 extra-large cities—up from nine in 1953.

The "loss" in small cities was due more to administrative decision not to upgrade other urban centers to the status of cities, or municipalities, than actual decline in number between 1953 and 1979. (By 1982, however, there were 236 cities, according to the census release, up by 45 from the 191 designated cities in 1979, shown in Table 11.) The overall trend was toward greater concentration of the urban population in extra-large cities of 1 million or more people. In 1953, some 40 percent of the urban population resided in the then nine metropolises of this size; by 1979, almost one-half (49.3 percent) of urbanites were concentrated in 29 extra-large cities, with nearly 29 percent living in the 10 municipalities with 2 million or more people. There had been only four cities with 2

Table 11. Cities by Population Size, 1953 and 1979, and 1953-1979 Change in Number

Size designation	Population size-class	Number		Change 1953-79 (percent)
		1953	1979	
Extra large	1 million or more	9	29	+220
Large	500,000-1 million	16	36	+120
Medium	300,000-500,000	10	41	+300
Small	20,000-300,000	131	85	− 35
Total		166	191	+ 15

Source: Zhu Zhuo, "On the Rational Distribution of the Chinese Population," *Renkou Yanjiu (Population Research)*, No. 3 (1980) pp. 11-17.

million or more people in 1953.

Thus, even though China has been successful in directing more urbanization toward less populated regions in the west and holding down the incease in overall urbanization, it has failed to brake further growth in very large cities. This has compounded the problems of housing, transportation, health, safety, and employment, which are particularly acute in cities. The stabilization of urban population has also been difficult because much of the growth occurred within the designated "urban places" themselves. Chinese specialists estimate that a little over one-third of the increase in urban population between 1949 and 1979 was due to the influx of 25 million migrants from rural areas; two-thirds of the growth stemmed directly from natural increase (births minus deaths) within the urban population.[59]

Current urbanization policy

Anti-urbanization measures may have ended mass rural-to-urban shifts like the "blind infiltrations" of the 1950s, but China is still faced with the problem of finding work off the land for a rapidly growing surplus of labor in rural areas. The recent surge in population growth has left 25 to 30 percent of the rural labor force currently underemployed or unemployed. The ranks are sure to go much higher with the recently begun efforts to modernize and mechanize agriculture; Chinese population specialists estimate that mechanization may eventually displace 300 to 500 million peasants from farming and related operations.[60] All this makes rural outmigration inevitable. On the other hand, Chinese planners are still anxious to avoid the growth of large and "extra-large" cities with all their problems. Current policy is thus aimed at a redirection of urban growth.

This is not likely to mean renewed efforts to transplant large numbers of people to remote areas, which proved costly and had little demographic effect. Relocating industries as a means of redistributing population continues, but water shortages and long transportation distances put a limit on industrial development and population settlement in regions remote from the most densely populated areas.

When industries were relocated away from coastal areas beginning in the 1950s, the object was national security and economic considerations, not population redistribution. Though this helped to draw urban population westward, urban growth unrelated to, or in excess of, the needs of industrial development was to be strictly disallowed. Cities were plants, not people.

Now, population matters figure prominently in discussion of the urban future. Redirection of growth is aimed at turning the pattern of Chinese urbanization into one like "stars scattered all over the sky or pieces spread on a chessboard." One plan suggests that if five commune seats in each of China's more than 2,000 counties were developed into small cities of 20,000 people apiece, more than 200 million people could be accommodated in such places.[61] Another plan advocates transforming the more than 2,000 county seats (half of which now have populations between 20,000 and 80,000) into medium and small cities of 100,000 or more population. This would absorb an additional 60 to 200 million people. Still another plan suggests that an average of 2,000 rural persons be relocated in each of the present 110 small cities, some 3,200 towns and county seats, and upwards of 50,000 rural market towns. That would provide employment opportunities for the 100 million peasants who are currently expected to become surplus labor in the villages by the year 2000.[62]

All policy speculations on China's urban future call for the "strict control of the growth of large cities, rational development of medium-size cities, and positive expansion of small cities and towns." The indications are that the last objective is being actively pursued. Since 1978, for example, "freedom of domicile" has been erased from the national con-

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Mechanization could displace 100 million peasants from farming by 2000. Present policy is to relocate them and their families in small cities and towns scattered across the country.

stitution. Violations of regulations on household registration have been dealt with severely, particularly unauthorized residential shifts from rural to urban jurisdictions. Control of geographic mobility remains a centerpiece of China's urban planning. The aims are to minimize population chaos in cities and to stimulate a pattern of decentralized urbanization. A modern version of the 17th century adage, the policy no longer frowns on rural exodus as such. The premise now reads: "When the masses dwell in small cities and towns, order prevails; when the masses flock to large cities, disorder ensues." Its implementation requires that living conditions in small cities and towns be improved. Thus, unlike the 1950s, the emerging urban places are to meet people's needs, not just those of industrialization.

The Family Planning Program

With the launching of the *wan xi shao* campaign in 1971, China's family planning program quickly took on the features that have distinguished it ever since. The main features are:

- Overall population plans and reproductive norms are set at the national level, shaped by the nation's ability to feed, clothe and shelter the people, and to improve living standards.
- Based on the principle of "coordination between state guidance and mass voluntarism," national policy is passed down through successive levels to be translated into actual programs suited to local conditions and implemented at the grassroots level.
- Leaders at all levels are held responsible for achieving birth planning goals, and individual couples are rewarded or penalized depending on their compliance with reproductive norms.
- Birth planning is promoted through every feasible channel, ranging from mass information (posters, TV, radio, newspaper editorials, etc.) to small group and personal meetings where strong peer pressure is exerted.
- All family planning methods are financed by the central government and made widely avaialble.

Organization and implementation[63]

Setting policy at the national level is the Birth Planning Commission (formerly, Birth Planning Leading Group) of the State Council (top body in the government's executive branch). This was headed by Vice-Premier Chen Muhua until the recent appointment of Qian Xinzhong. The Commission is backed up by the State Birth Planning Office which supervises activities throughout the country. At the provincial level there is also a policymaking birth planning committee and an implementing birth planning office which passes final judgment on birth plans submitted for approval from lower administrative levels, organizes mass media campaigns and annual meetings of birth planning officials, etc. At the next lower level, county birth planning offices supply contraceptives to the rural communes and production brigades, reimburse commune health centers for IUD insertions, sterilizations,

Table 12. IUD Insertions, Sterilizations, and Abortions: China, 1971-1977

(Numbers in thousands; percentage distribution in parentheses)

Year	IUD insertions	Sterilizations		Induced abortions	Total
		Female	Male		
1971	6,173 (47.4)	1,745 (13.4)	1,224 (9.4)	3,910 (29.9)	13,052 (100)
1972	9,220 (51.7)	2,087 (11.7)	1,716 (9.6)	4,814 (27.0)	17,837 (100)
1973	13,950 (58.2)	2,956 (12.4)	1,933 (8.1)	5,110 (21.3)	23,949 (100)
1974	12,580 (59.1)	2,276 (10.7)	1,445 (6.8)	4,985 (23.4)	21,286 (100)
1975	16.744 (60.3)	3,260 (11.8)	2,653 (9.6)	5,084 (18.3)	27,741 (100)
1976	11,620 (51.9)	2,700 (12.1)	1,490 (6.7)	6,570 (29.3)	22,380 (100)
1977	12,974 (55.0)	2,776 (11.1)	2,616 (11.1)	5,229 (22.1)	23,595 (100)
1971-77	83,261	17,800	13,077	35,702	149,840

Source: Zhang Lizhong, "Birth Control, Late Marriage, and Decline in the Natural Increase rate of Population," *Renkou yu Jingji (Population and Economics)*, No. 1 (1980) pp. 35-39.

and abortions, direct county-level information activities, and keep records and statistics. There is also a birth planning leadership group at the commune level and another at the brigade level which supervises the barefoot doctors and other personnel who deliver contraceptives to households and accompany men and women to the commune health center for one of the four "birth planning operations"—tubectomy, vasectomy, IUD insertion, or abortion.

The brigade group (or resident committee in urban areas) organizes group and personal meetings to ensure compliance with reproductive norms and birth quotas. It draws up local birth plans for the coming year, giving priority to newlyweds who marry late and (until the one-child campaign) couples with one child aged three or more. Once the plans are adjusted and approved at higher levels, couples authorized to have a child are issued a planned birth certificate which must be shown at all prenatal visits. Unauthorized births are defined as "unplanned." Community-level groups are also supposed to provide incentives to people undergoing birth planning operations and couples pledging to have only one child.

At all levels of the organizational hierarchy, birth planning units work closely under Communist Party leaders and involve members of mass organizations like the Women's Federation, police, school systems, etc., as well as the health establishment.

Contraceptive methods. About 70 percent of Chinese couples of childbearing age were estimated to be practicing contraception in 1978, about the same level as in the U.S. More recent figures range as high as 84 percent in Jiangsu and Hebei provinces. About half of all contraceptors use IUDs; there were some 83 million IUD insertions between 1971 and 1977 (see Table 12). Sterilization is the second most widely used method, relied upon by some 30 percent of contraceptors. Between 1971 and 1977 nearly 18 million female sterilizations (tubectomies) and 13 million male sterilizations (vasectomies) were performed, as seen in Table 12. Pills are available and popular in larger cities; condoms, though available, are little used. Abortions, though officially approved only in cases of contraceptive failure, are common, amounting to an estimated 318 abortions per 1,000 live births in 1978. (The comparable figure in the U.S. in 1978 was 400.[64]) People undergoing one of the four birth planning operations are entitled to paid leave ranging from a few days for an IUD insertion (or removal) up to as much as 70 days for a woman who has a sterilization following a "planned" birth in some areas, plus nutrition allowances and bonuses in some cases.[65] Although voluntarism is stressed as a guiding principle, there are frequent reports of local birth planning cadres concerned to meet birth quotas who "mobilize" men and women to undergo sterilizations or "persuade" women with unplanned pregnancies to undergo abortion. As China strives to meet its increasingly stringent population objectives, such cases are bound to increase, along with the level of sterilizations and abortions.

From wan xi shao to one child

Late marriage, first promoted in the brief family planning campaigns during the 1950s and 1960s, was at first the most visible component of the 1970s campaign—*wan xi shao:* later (marriage), longer (intervals between births), fewer (children). However, fertility recommendations soon became more explicit, couched in terms of the Zhou Enlai model of "one is not too few, two are good, three are too many." Implicit in this model was the two-child family ideal.

The two-child family ideal fitted well with early goals of the 1970s which called for reducing the rate of natural increase to between 9 and 10 per 1,000 population by 1980. Renewed access to foreign demographic literature, however, propagated the notion of zero population growth among Chinese population specialists, and the goal was revised to ZPG by the year 2000. Leading policymakers were quickly persuaded to adopt the now renowned "one-child-per-couple" policy.

Its adoption followed calculations which showed that even strict adherence to the *wan xi shao* model could not avert a rise in the natural increase rate as the 1962-72 baby boom cohorts reached the ages of marriage.[66] Some 9.63 million women reached age 22 in 1980 and this figure will rise to 14.5 million in 1985. At a June 1978 meeting of the State Birth Planning Leading Group, Li Xiushen, Director of the Group's Staff Office, pointed out that such data indicated the need for "an adjustment in the frequency of births." The Leading Group accordingly resolved that: "One birth be considered the best, two births the maximum, and a third birth strictly regulated." The "one child is best" norm was approved by the State Council and formally endorsed in 1978 by the Central Committee of the Chinese Communist Party (the country's paramount authority).[67]

The national goal established in 1978 was that by 1985, 80 percent of annual births in urban areas should be first births and 50 percent in rural areas. Chen Muhua raised the goal in a February 1980 speech:

> "We will try to attain the goal that 95 percent of married couples in the cities and 90 percent in the countryside will have only one child in due course, so that the total population of China will be controlled at about 1.2 billion by the end of the century."[68]

From voluntarism to incentives

To gain an idea of how the masses would accept this radical new norm, the Leading Group called for sample surveys in several provinces and municipalities of the proportion of couples with one child who would voluntarily forego further childbearing. As shown in Table 13, the idea was evidently highly unpopular, at least in 1978 and 1979. Urban couples were more likely to be willing to stop at one child, but with the majority of people living in rural areas, the low proportions of willing couples in the rural areas surveyed suggested that no more than one

Table 13. Couples Who Would Voluntarily Have Only One Child: Various Localities, 1978-1979

(Numbers = percentages of all couples surveyed)

Locality	Place of residence		
	Urban	Suburban	Rural
Shanghai[a]	60.0	19.0	1.9
Fuzhou, Fujian	18.5	—	—
Changsa, etc., Hunan[b]	34.6	—	—
Hebei province	11.4	—	11.4

Source: Li Xiuzheng, "The Present Situation and Tasks in the Planned Reproduction Work," *Renkou Yanjui (Population Research)*, No. 1 (April 1980) pp. 3-5.

[a] Sample size was 16,768. [b] Sample size was 3,719.

or two of every ten couples in the nation would voluntarily stop at one child. Even in 1981, a survey in Hubei province revealed that rural dwellers want at least two children. Of 728 childbearing women questioned, less than 5 percent wanted only one child; 51 percent wanted two; 28 percent wanted three; and 16 percent wanted four.[69]

Such findings suggested that attaining the one-child ideal required more than "mass voluntarism." Thus, at a national conference of family planning officials in January 1979, the Birth Planning Leading Group called for countrywide adoption of a system of rewards and penalties already being used in the municipality of Tianjin and province of Guangdong.[70]

The stipulations referred to one-child couples who pledged to have no more and received what became known as "only child glory certificates." In Guangdong, the certificates entitled couples to free medical care and school tuition for their only child. Other provinces, most notably Sichuan, soon added direct monthly payments in cash (in urban areas) or work points (in rural areas, where work points determine the individual's share of the collective's food and supplies), preferential treatment in housing, eventual job priorities for the single child, extra old-age pensions for parents of single children in urban areas and in rural areas a guaranteed standard of living for such parents in their old age, equal to or higher than the local average. Penalties were also added to the list soon adopted by provinces and cities across the nation. Like incentives, these vary widely, but commonly require that parents who break their pledge by having a second child must return all stipends and work points received. Those who go on to a third have their monthly wages reduced by 10 percent or more, must remain in housing meant for a two-child family, and are charged for the extra child's grain ration. Multiple births are an exception to these rules. Also, if an only child dies, parents may have another without penalty.

In 1979, high Party and government officials drafted a national family planning law which stipulated nationwide application of incentives for the one-child family and disincentives for more than two births. Going beyond the "advocacy" of family planning in the constitution of 1978, this would make it legally obligatory throughout the country to practice family planning in general and the one-child family in particular. However, the law was voted down when presented to the National People's Congress in August 1980.

Delegates opposing the law argued that the one-child norm would lead to aging of the population, shortages of labor and males of military age, unbalanced sex ratios, and a situation of one young couple having to support four parents and one child (the "4-2-1" population structure). Others have been concerned that only children might have low IQs and be spoiled. The unabated fear of child mortality would also be a hindrance to legislated compliance with the one-child norm.[71]

Though not yet written into national law, the one-child family is now national policy, implemented to varying degrees throughout the country by provincial and local administrative measures. In September 1980, the Central Committee of the Party issued an open letter to all Party and Communist Youth League members, calling on them to set an example by themselves having only one child and to "actively, conscientiously, and patiently publicize the call among the broad masses."[72]

One-child campaign results

Early results of the one-child campaign appear impressive, despite general aversion to the notion of a single child indicated by the opinion surveys conducted in 1978 and 1979 before the campaign swung into high gear. In June 1981, Chen Muhua reported that over 11 million one-child certificates had been issued, covering 57 percent of the estimated total of 20 million couples with one child.[73] By August 1982, it was reported that the total of one-child certificates had risen to over 15 million and that 60 percent of all births in the first half of the year had been first births, compared to 56 percent in 1981.[74] At the end of 1982, Qian Xinzhong, newly appointed head of the State Birth Planning Commission, announced that couples pledging to stop at one child accounted for more than 70 percent of all married couples in the three largest municipalities (Beijing, Shanghai, and Tianjin) and in five provinces (Liaoning, Shandong, Jilin, Heilongjiang, and Jiangsu).[75]

As in all previous campaigns, the results vary, especially between urban and rural areas. In 1980, for example, the city of Suzhou in Jiangsu province reported that 95 percent of all one-child couples had pledged to have no more, in contrast to only 25 percent in rural areas of Guangdong province. Also, the different ways of measuring progress can be misleading. The current proportion of first births among total annual births is doubtless inflated by the surge in marriages since the new marriage law went into effect in January 1981. Records of the percentages of all one-child couples who have received one-child certificates overlook the behavior of couples with two or more children. The full impact of the one-child campaign will only be known when the women now entering the childbearing ages have reached the end of their fertile years.

Two 1980 surveys in the city of Hofei in Anhui province and in Beijing revealed that holders of one-child certificates tended to be older than single-child parents who had not pledged to have no more children, and their single child was more likely to be male and at least seven years old.[76] This suggests that high percentages of one-child certificate holders reported in the early years of the campaign may have been inflated by couples who had already been limiting their fertility for some time and felt secure in the knowledge that their single, usually male child had survived the most perilous years of childhood. Besides being more recent parents and more likely not to have a son, non-certificate-holding families were more likely to be poor (monthly income per person below 20 yuan; 1.53 yuan = U.S.$1.00 at end of 1980). The benefits offered along with "only child glory certificates" seem to have been less than enough to persuade them to stop at one child.

Current Issues and Outlook

The 1982 census data cited in this *Bulletin* are limited to the broad, manually-tabulated findings released in October 1982. A clearer view of China's population scene should begin to emerge in 1984 when publication of detailed data, now being processed by computer, is due to start.* Meanwhile, what are the current problems in limiting fertility and the prospects for achieving the goal of a population totaling no more than 1.2 billion in 2000? There are still difficulties in persuading the Chinese masses to adopt strict family planning and even more in implementing the one-child goal.

Barriers to fertility limitation

Child costs and family interests. In 1982, a Chinese population specialist described the conflicts which strict family limitation still present for Chinese rural

Table 14. Family and Public Costs of Raising a Child to Age 16 in Urban and Rural Areas: China, 1979

(1 yuan = U.S. $0.51 in March 1983)

	Large cities		Towns		Villages	
Item	Yuan	Percent of total	Yuan	Percent of total	Yuan	Percent of total
Family expenditures						
Food, etc.	4,224	61.2	3,466	71.9	1,100	67.3
Health	240	3.5	240	5.0	24	1.3
Education	225	3.3	150	3.1	72	4.4
Total for family	4,689	68.0	3,856	80.0	1,196	73.0
State or collective costs						
Health	241	3.5	241	5.0	49	3.1
Education	560	8.0	550	11.4	365	22.6
Urban services, etc.	1,120	16.2	0	0	0	0
Other[a]	297	4.3	173	3.6	20	1.3
State or collective total	2,218	32.0	964	20.0	434	27.0
Overall total	6,907	100.0	4,820	100.0	1,630	100.0

Source: Adapted from Z. Liu, C. Wu, and R. Zha, *Renkou Tongjixui (Population Statistics)* (Beijing: Chinese People's University Press, 1981) pp. 369-370.

[a] Includes payments for prenatal examinations, delivery and childcare subsidies.

couples in particular:

> "The family is still the primary unit of consumption and procreation, and the number of births is closely tied to family economic interests. In deciding how many children to have, parents take into account the costs of bringing up a child until it reaches working age. But they also consider that when the child grows up it will contribute to family income and, in particular, provide the parents insurance for their old age."[77]

Estimates as of 1979 shown in Table 14 indicate that raising a child to age 16 costs much more in large cities and towns than in rural villages. In large cities, expenditures by the family itself average 20 to 25 yuan a month (1 yuan = U.S. 51¢ as of spring 1983). This is a huge sum in relation to the average monthly per capita wage of 61 yuan in the industrial-urban sector in 1981.[79] The total average family expenditure on a child to age 16 in large cities (4,689 yuan) is nearly four times the average in rural areas (1,196 yuan). For the state also there is a much greater financial benefit in limiting births in urban areas than in rural areas. For each child up to age 16, health and education costs for the state in large cities (801 yuan) average nearly twice the costs for a rural child (414 yuan).

However, China's population prospects are determined by the fertility behavior of the 80 percent of the population living in rural areas. The fact that the state or collectives have not been able to spend nearly as much on children's education and health in rural areas as in large cities and towns indicates that, for most of China's population, the family is still almost wholly responsible for the welfare of its members.

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*Thirty-one volumes of data are to be published from the 1982 census. Data from the 1953 census, published in 1954, amounted to two pages. From the 1964 census, provincial population totals only appeared in 1972 and a few other findings in 1980-82. The 1982 census questionnaire completed for each household includes information on: household location (urban/rural, etc.); household births and deaths in 1981; name, sex, age, ethnic origin, place of residence and registration of each person in the household; level of schooling for each person aged six and over; occupational status (industry and occupation if working, whether student, looking for job, housekeeper, retired, etc. if not working) and marital status for each person aged 15 and over; children ever born and if now living for women aged 15-64; and children born in 1981 and birth order for women aged 15-49.[78]

This is especially true for elderly members of the family. At present, there is an adequate old-age pension system only for people employed in the state-owned urban-industrial sector who make up, at most, 10 percent of the total population. A survey reported in 1982 of some 3,500 production brigades (villages) in 11 provinces and municipalities indicated that only 1 percent of men aged 65 and older and women aged 60 and older were receiving pensions of 10-15 yuan a month paid by the community.[80] Thus, children are plainly valuable for rural parents and the absence of an adequate state-provided pension system for China's vast rural population is a major barrier to fertility limitation.

Agricultural responsibility system. Another potential barrier is the "responsibility system" adopted since 1979 in order to boost agricultural production. Formerly, peasants were assigned specific tasks and paid in work points determined by the income from the land farmed collectively by the production brigade or team. Now, in most areas, one household, or a group of households, is assigned a specific plot to work independently and an annual quota. They may keep or sell on the free market any food produced beyond this quota. Once again, it pays peasants to have more children to help increase output and boost family income as they reach working age, and there are no work points to award to couples who sign up for one-child certificates or to deduct from those who break the pledge to stop at one child. To combat this threat to limited fertility, some localities have introduced "double quota contracts": households must both deliver their farm output quota *and* refrain from having an unauthorized birth, or pay a severe fine. Anhui province has gone further: parents of a single child are now to receive double the usual size plot for that child; parents of second and later children will lose all land previously assigned to them to manage. In many localities the Communist Party and administrative cadres have been put on a "post-responsibility" system in which the bonuses that can make up 20 to 30 percent of their annual income now depend not just on overfulfillment of their commune's farm product quota, as in the past, but also on not exceeding birth quotas.

Barriers to the one-child norm

High benefit costs. So far, urban employing units and rural production teams have been responsible for the monthly allowances, medical and education fees, priority housing, and other benefits promised to one-child certificate holders. These can be an intolerable drain on the welfare funds of unprofitable urban enterprises and endanger the living standards of other families in poor rural areas. In one urban unit, for example, two-thirds of its welfare fund had to be used as subsidies and payments to one-child certificate holders. In the 1980 Hofei city survey, some one-child certificate holders reported that they had received only "a couple of towels, a thermos bottle, some toys, a washing basin, or nothing at all." Although a fund earmarked for one-child incentives would be a burden in a country with a per capita GNP of barely $300 per year,[81] strict and equitable enforcement of the one-child family clearly requires some such national scheme. This has been discussed at high levels but no final decision has been announced.

Persistent male preference, as noted, is a strong barrier to the one-child norm. Despite official efforts to discourage discrimination against females, a recently reported study cited sex ratios among infants under one year of 154 males to every 100 females in one urban neighborhood and up to 503 in the villages studied.[82] Officially, young men are now being encouraged to move in with in-laws when they marry an only daughter but if an only son marries an only daughter, the couple can live with only one of the two sets of parents and yet must financially support both sets of parents. Therefore, it makes sense for parents to have a minimum of two children, regardless of sex. Given an almost even number of each sex at birth, in the long run no more than 50 percent of all couples are likely to have only one child.[83]

Chinese officials recognize that strong male preference may require some exceptions to the one-child rule. Recently it was recommended that:

> "The vast number of people in the villages and the peasants, herdsmen, fishermen, and other residents in suburban areas of municipalities should be encouraged to have no more children on a voluntary basis if their first child is a female. But, if they still desire to bear another, permission should be given."[84]

Intensified efforts

Despite the difficulties of persuading couples to adopt the one-child norm and the extra demographic pressure now being exerted by the coming-of-age of the baby boom generation, Chinese officials have stepped up efforts to limit population in order to improve living standards. At the September 1982 National Congress of the Chinese Communist Party, it was stated that "We must work hard to limit the population within 1.2 billion by the end of this century."[85] The Sixth Five-Year Plan (1981-85) approved by the National People's Congress in December 1982 stipulates that (1) the total population be kept below 1.06 billion by 1985, the birth rate at 19 per 1,000 population, and the rate of natural increase to 13 per 1,000, and (2) that population planning also be introduced in minority areas. It calls for energetic promotion of the one-child-per-couple policy, aiming to "vigorously raise the 'one-parity birth ratio,' to strictly control second births, and to resolutely put an end to higher parity births."

Qian Xinzhong, Director of the State Birth Planning Commission, predicted in November 1982 that a national family planning law—though aborted in 1980—would be adopted in two years.[86] This is to include measures to reward one-child couples, to discourage two or more children and to encourage late marriage and late childbearing, and provisions for family planning programs in minority regions.

Shahid Husain

Even if the firstborn is a girl, most couples will have to stop at one child if China is to succeed in its drive to keep the total population under 1.2 billion in 2000.

A nationwide drive between January 1, 1983, and the Spring Festival (Chinese New Year) on February 13 marked the renewed efforts to control population growth. Teams of officials were dispatched into the countryside to promote the one-child policy, accompanied by doctors to insert IUDs and perform abortions. Despite such special efforts, however, and the impressive results of the one-child campaign so far, at least in cities and nearby surroundings, the overall indications are that the average family size in China is unlikely to drop to just one child per couple. (The total fertility rate, which indicates the average number of children women would have if childbearing continued at the current level, was 1.8 in the U.S. in 1981.)

Population growth prospects

Whether or not the Chinese population will exceed 1.2 billion in the year 2000 is an irresistible question. With the total already over 1.008 billion in mid-1982, only an increase of no more than 11 million a year between 1982 and 2000 would prevent a larger figure.

Official data indicate that some 240 million couples will successively come of age over these 18 years, yielding an average of 13 million marriages a year. First births will be as numerous. For 1983, the national population goal is to limit first births to 63 percent of total births and to reduce third and higher order births to less than 5 percent. The rest (32 percent) are to be second births. If neither of the latter goals is realized, births in 1983 will total more than 20 million, as was the case in 1981, according to the 1982 census findings. Thus, allowing for low death rates, it is extremely likely that the Chinese population will exceed the hoped-for limit of 1.2 billion, probably by 150 million, and reach 1.35 billion in the year 2000 if not before. And even to keep to this nearly 13 percent higher figure will mean that the level of birth control, particularly sterilizations and probably also abortions, must continue at least as high if not higher than the high levels that produced the rapid birth rate decline of the 1970s.

Reflections

China's demographic trends and policies of recent years have earned both strong admiration and severe admonitions from watchers the world over. Most admonitions have focused on the use of coercion to prevent or terminate unplanned pregnancies. Instances of coercive sterilization and abortion clearly in violation of the dual principle of state guidance and mass voluntarism have indeed occurred and been criticized in the Chinese press. Of course, these misdeeds should not be condoned. But they should also not be exaggerated for they are not official measures but only local misfeasances.

Coercion has also become an issue in the global context of state authority versus the reproductive rights of individuals. After decades of struggle, methods to control fertility are now widely available and what can be called "coercive parenthood" has ended in most countries and married couples are free to limit childbearing to maximize their family well-being. However, there are few precedents by which to judge the authority of the state to curb fertility. State control of individual behavior in other areas is accepted; for example, few people question the need for compulsory education which still involves penalties for noncompliance. Given the unprecedented global population growth since the 1940s and particularly in China, the world's most populous country, shouldn't a limit to parenthood be set by society to promote the interests of all citizens?

China has answered in the affirmative. A temporary limit to parenthood has been set in accordance with the nation's ability to feed, clothe, and shelter all its people now and to improve living standards in the future. If a couple has a child out of turn or in excess of the limit, the pair infringes on the well-being of others. The penalties are the same for all noncomplying couples. No social discrimination is involved; both social justice and societal welfare are observed. China has learned how difficult it is to manage the population affairs of a huge nation, as any married couple quickly learns how hard it is to run the affairs of a large family. Of the world's first demographic billionaire—with all its population assets, anxieties, and aspirations—it can be said that "a country is a family is a country."☐

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Abstract—With relatively high fertility and growing legal and illegal immigration, the U.S. Hispanic population increased by some 265 percent from an estimated 4 million in 1950 to 14.6 million and 6.4 percent of the total population counted in the 1980 census. By 2020 they could number some 47 million and displace blacks as the largest U.S. minority if immigration were to continue at the recent estimated level of one million a year (legal plus illegal, Hispanics plus all others). Self-identified as persons who trace their heritage to Spanish-speaking countries, Hispanics consist of Mexican Americans (60 percent of the total), still concentrated in the Southwest; Puerto Ricans living mainly in New York and New Jersey; Cubans headquartered in Florida; and the second largest, more scattered "Other Hispanic" group from some 16 other Latin American countries and Spain, plus some Mexican Americans established many generations in the U.S. Southwest. Fully 88 percent of Hispanics, compared to 75 percent of the general population, live in metropolitan areas. Except for Cubans, Hispanics are younger than the U.S. average (a median of 23 years versus the general median of 30 in 1980) and have higher fertility (an estimated 2.5 versus 1.8 births per woman), though their life expectancy may now equal that of all U.S. whites. They are also more likely to be divorced or separated and live in female-headed families. Hispanic occupational status and educational attainment still lag far behind the U.S. average, unemployment is 40-50 percent higher, and Hispanic families average 70 percent of the median income and 2.7 times the poverty rate of all U.S. white families. But younger Hispanics and Cubans in particular are beginning to catch up, as is likely also for future generations of U.S. Hispanics. However, with their common language and large numbers (including a large, if unknown, number of "undocumented" aliens), assimilation into the U.S. "melting pot" may take longer for Hispanics than it did for other immigrant ethnic groups before them.

Editor: Jean van der Tak Graphics: George Hager

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U.S. Hispanics: Changing the Face of America

By Cary Davis, Carl Haub, and JoAnne Willette

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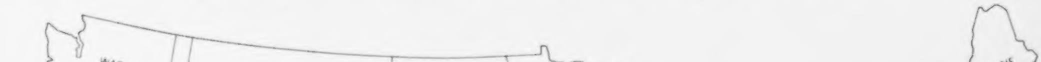
WHERE MOST HISPANICS LIVE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▨ **States with 250,000 or more persons of Hispanic origin according to the 1980 census**

Some 85 percent of the 14.6 million Hispanics counted in the 1980 U.S. census lived in these nine states. Mexican Americans, the largest Hispanic group, are concentrated in the Southwest, particularly California and Texas. Most Puerto Ricans live in New York and New Jersey. Cubans are headquartered in Florida. The largest numbers of the fourth, more scattered "Other Hispanic" group are found in California and New York.

U.S. Hispanics: Changing the Face of America

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The 1980 census counted 14.6 million persons of Spanish origin in the United States, 6.4 percent of the then total population of 226.5 million. Hispanics are the second largest U.S. minority after blacks (11.7 percent in 1980) and the fastest growing. Fueled by the relatively high fertility of most Hispanic groups and increasing immigration, both legal and illegal, their numbers grew by about 265 percent from 1950 to 1980, compared to just under 50 percent for the total U.S. population. If immigration to the U.S. were to continue at the recent estimated total of about one million a year (legal plus illegal, Hispanics plus Asians and all others), Hispanics could number some 47 million and comprise 15 percent of the population by the year 2020, displacing blacks as the country's largest minority.

Thirty years ago, Spanish Americans consisted primarily of a few million Mexican Americans living in the Southwest, some of whom traced their ancestry back to the original Spanish-colonial and Indian inhabitants of that area. Today the umbrella term "Hispanic" covers a diverse population, still concentrated in a few states, but found throughout the nation: Mexican Americans, now beginning to move from their traditional base in the Southwest; Puerto Ricans, mainly concentrated in New York and New Jersey; Cubans headquartered in Florida; and recent arrivals from at least 16 other Spanish-speaking countries of Latin America and Spain itself.

Like other immigrant groups before them, Hispanics are beginning to change the face of America, making their distinctive contributions to the neighborhoods in which they live. But with their growing numbers, they are also encountering the hostility historically accorded almost all newly arriving ethnic groups. Some predict that Hispanics will eventually assimilate into the American "melting pot" as the Irish, Italians, and Polish did before them. Others feel their very numbers and common language could delay assimilation and create a "Hispanic Quebec" within the United States. Hispanics also face a special problem in gaining acceptance—the presence among them of a large and growing number of illegal immigrants from Mexico and other Central and South American countries. And as America's latest great wave of immigrants, they are learning that newcomers start out at the bottom. U.S. Hispanics as a group are much less educated, much poorer, occupy lower rungs on the occupational ladder, and are much more likely to be unemployed than the non-Hispanic population. But some Hispanics, particularly Cubans, are beginning to catch up and the evidence suggests that future generations of U.S. Hispanics will too.

This *Bulletin* looks at where U.S. Hispanics are today, demographically and socioeconomically, and what their numbers are likely to be over the next few decades. We begin with outlining the problems of defining who is included in this increasingly visible and influential segment of the U.S. population.

Who are the Hispanics?

While "Hispanic" has become a convenient way to refer to Americans of Spanish heritage, the catchall term masks a variety of ethnic, racial, national, and cultural backgrounds. And within the U.S., the various "Hispanic" groups tend to be separated geographically and in their way of life. The four categories used by the U.S. Census Bureau are now most frequently taken to encompass the "Spanish-origin" or Hispanic population. These are, first, Mexican Americans, or "Chicanos," the largest group, living mostly in the Southwest. Many of these are not immigrants but "Hispanos" who trace their ancestry back to the Spanish colonialists and Indians who were the original inhabitants of the American Southwest. Next are Puerto Ricans, an intermixture of Spanish, Indian, and black, who, as U.S. citizens at birth, are not subject to immigration restrictions. Cubans, the smallest group, assumed numerical importance as an ethnic group in the U.S. after the 1959 Cuban Revolution. The "Other Hispanic" category, now the second largest of the four groups, covers people from other Spanish-speaking countries of Latin America and from Spain. Many Hispanos also place themselves in this category on Census Bureau questionnaires. *Not* included among Hispanics are immigrants from non-Spanish-language Latin American countries such as French-speaking Haitians and Portuguese-speaking Brazilians.

Contrary to popular opinion, Hispanics do not all speak Spanish (11.1 million people reported speaking Spanish at home in the 1980 census, while the Hispanic count was 14.6 million) and not all are Roman Catholic, though 85 percent are estimated to be. The one thing shared by the four Hispanic groups is that all trace their heritage to Spanish-speaking nations. Using language heritage to sort out Hispanics, however, can present problems. For example, an immigrant from Argentina and one from Uruguay may clearly seem to be Hispanic, but what if the first is of Italian birth or descent and the second a German?

Defining the Hispanic population

Defining any racial or ethnic group is a thorny problem. What characteristic determines race or ethnicity? Surname? Birthplace of parents, or grandparents? Language usage? Cultural affiliation? Any of these may help classify some persons as "Irish," "Chinese," "black," or "Hispanic," but none can delimit mutually exclusive categories for any population. Racial groups, such as white or black, are often easier to identify since racial intermarriage is still relatively rare in the U.S. But classifying ethnic groups is confused by intermarriage—common in the countries from which immigrants come and practically a national tradition in the U.S. Despite such problems, the Census Bureau has made much effort to come up with an acceptable definition of the Hispanic population which is needed for statistical measurements to back up such statements as "Hispanic mothers have more children than non-Hispanics," or to measure changes in the demographic and social characteristics of this popu-

Table 1. Hispanic Population Counted in 1970 Census According to Six Identifiers: Total U.S. and Selected Areas

Identifier	United States	Southwestern states[a]	Middle Atlantic states[b]	Florida	Remaining states
Spanish origin	9,072,602	5,008,556	1,749,363	405,036	1,909,647
Spanish surname	—	4,667,975	—	—	—
Spanish language[c]	9,589,216	5,662,700	1,873,051	451,382	1,602,083
Spanish heritage[d]	9,294,509	6,188,362	1,052,682	451,382	1,602,083
Spanish language or surname	10,114,878	6,188,362	1,873,051	451,382	1,602,083
Spanish birth or parentage	5,241,892	2,321,642	1,738,802	336,961	844,487

Source: Jacob S. Siegel and Jeffrey S. Passel, "Coverage of the Hispanic Population of the United States in the 1970 Census," *Current Population Reports*, Special Studies, Series P-23, No. 82, 1979.

[a] Southwestern states are Arizona, California, Colorado, New Mexico, Texas.
[b] Middle Atlantic states are New Jersey, New York, Pennsylvania.
[c] Spanish language covers all persons of Spanish mother tongue and all other persons in families in which the head or wife reported Spanish mother tongue.
[d] Spanish heritage combines the following: persons of Spanish language or surname in the five southwestern states; persons of Puerto Rican birth or parentage in the three Middle Atlantic states; and persons of Spanish language in the remaining states and the District of Columbia.

Note: Different identifiers produce the same counts in states or regions where there is actually no difference in their definition. For example, in the Middle Atlantic states, "Spanish language" and "Spanish language or surname" counts are the same because the Spanish surname identifier was not used there, but only in the five southwestern states.

lation over time.[1]

Prior to the 1970 census, the concept of Hispanics as a group barely existed. Information on some components of the population, such as Mexicans, could be obtained from the usual census questions on a person's country of birth or that of parents, use of a language other than English at home, and ancestry. Some earlier census reports featured data on persons of Spanish surname and on Puerto Ricans.

But none of the identifiers used prior to 1970 could satisfy the need for a definition which could be applied nationwide and with reasonable consistency over time. The Census Bureau's painstakingly compiled list of some 8,000 Spanish surnames, for example, is only usable in five southwestern states where Spanish surnames are common (Arizona, California, Colorado, New Mexico, and Texas). Also, many of these surnames have close twins in Italian and Portuguese. And, of course, Spanish surnames can be lost or gained by marriage. A census question on birthplace or birthplace of parents can obviously account only for first- and second-generation Hispanics. A question on language usage in the home (either as a child, as was asked in 1970, or currently, as asked in 1980) misses Hispanics who do not use Spanish.

Thus we could expect that the different identifiers would produce different results, and they do, as seen in Table 1. These results are from the 1970 census, but they illustrate the point. We can see the limitation of birthplace or parentage data which identified only 5.2 million Hispanics nationwide. This question did perform well in the Middle Atlantic states in 1970 due to the predominance of recently arrived Puerto Ricans in the New York area, but, it did poorly in the five southwestern states.

Although none of these methods may be adequate for a consistent count of Hispanics from census to census, they do have real analytic value and should certainly be used. Knowing how many

Figure 1. The Spanish-Origin Question in the 1970 and 1980 Censuses

1970

b. Is this person's origin or descent— *(Fill one circle)*

○ Mexican	○ Central or South American
○ Puerto Rican	○ Other Spanish
○ Cuban	○ No, none of these

1980

7. Is this person of Spanish/Hispanic origin or descent? *Fill one circle.*	○ No (not Spanish/Hispanic) ○ Yes, Mexican, Mexican-Amer., Chicano ○ Yes, Puerto Rican ■ ○ Yes, Cuban ○ Yes, other Spanish/Hispanic

Instructions to the respondent for 1980 Spanish-origin question.

> 7. A person is of Spanish/Hispanic origin or descent if the person *identifies* his or her ancestry with one of the listed groups, that is, Mexican, Puerto Rican, etc. Origin or descent (ancestry) may be viewed as the nationality group, the lineage, or country in which the person or the person's parents or ancestors were born.

people speak Spanish at home helps track cultural assimilation. Birthplace or parentage separates first-generation Hispanics from second-generation Hispanics born in the U.S. But for counting the population, a more consistent method was needed.

The Spanish-origin question

Enter the Spanish-origin census question. All of the above methods are based on *objective* characteristics, some of which, such as surname, can change during a person's lifetime. The Spanish-origin question is *subjective* in that it simply asks persons whether or not they identify themselves as Hispanic. It first appeared in the 1970 census as question 13b on the "long form" used with a 5 percent sample of households across the country, and did not actually ask about Spanish origin but went directly to categories, such as Mexican or Puerto Rican (see Figure 1). In 1980, the question appeared as item 7 on the "short form" received by all households. This was done to produce data for Hispanics in small geographic areas, eliminating the effects of sampling error.

The question has some advantages over objective methods. It can easily be repeated from census to census and will consistently count those persons who consider themselves to be of Spanish origin. But it also has some built-in disadvantages. Its performance depends on the tendency of individuals to identify themselves as Hispanics at any given time. This in turn can be influenced by such factors as the wording of the question, the language (Spanish-language questionnaires were available in 1980), the categories given as responses, and even the position of the question on the census form. The version used in 1980, honed in extensive pretests, was an improvement over 1970 (Figure 1). It placed the negative response ("No, not Spanish/Hispanic") first to make it easier for non-Hispanics to respond. It added the popular term "Chicano" to potential responses and eliminated "Central or South American," which in 1970 had picked up many non-Hispanics who in-

"I am an American and something else. The "else" is an ethnic Puerto Rican. And now I am confused with the new term Hispanic."

Edward Gonzales, Jr., Educator and Labor Organizer, New York Times, May 11, 1980.

terpreted it to mean "Central or Southern United States" and Brazilians who are technically not Hispanic.[2] However, it kept the category "Other Spanish/Hispanic" which is often checked by Hispanos of long ancestry in the U.S. who properly belong in the Mexican category. Also, it is possible that many people were still confused, like the educator quoted in the box above, even though the 1980 census form included guidelines for answering the question, as seen in Figure 1.

Despite imperfections, however, the Spanish-origin question does offer the possibility of a relatively consistent enumeration of Hispanics. The census figures derived from this question—9.1 million in 1970 and 14.6 million in 1980—are most often used as estimates of the U.S. Hispanic population as of those dates. And it has been adopted as the Hispanic identifier in the Census Bureau's monthly Current Population Survey, the primary source of information on the population between census years.

Population Growth and Ethnic Mix

The Hispanic population of the U.S. numbers at least 15 million as of 1983, plus an uncounted number of illegal immigrants. The growth of this population began with the 1848 Treaty of Guadalupe Hidalgo in which Mexico ceded to the U.S. the territory which is now Texas, New Mexico, Arizona, California, Nevada, Utah, and part of Colorado. Many Hispanics in the U.S. Southwest thus trace their ancestry to Mexico in a very direct way. But the vast majority of today's Mexican-origin population is the result of immigration in the 20th century, beginning in the early 1900s with immigrants lured north to work in the farmlands of California and to build the railroads of the Southwest. This first immigration wave ended during the depression of the 1930s with the deportation of over 400,000 Mexicans, but picked up again during the 1940s with the *bracero* program. Designed to bring temporary workers north to alleviate U.S. labor shortages during World War II, the program brought in 4.8 million Mexicans before its demise in 1964.[3] Fueled by legal and illegal immigration plus relatively high fertility, the Mexican-American population has continued to grow, but its share of the total U.S. Hispanic population has been reduced to 60 percent from about 70 percent in 1950 with the influx of Puerto Ricans, Cubans, and "Other Hispanics" since then.

Puerto Ricans have had free access to the U.S. mainland as U.S. citizens since the Jones Act of 1917, long before the island became a Commonwealth with a unique relationship to the U.S. in 1952, after being a U.S. territory since the Spanish-American War of 1898. Less

Paul Conklin

A Mexican-American family in El Paso, Texas. Mexican Americans were the first U.S. Hispanics and are still 60 percent of the total.

Table 2. Total U.S. and Hispanic Population: 1950-1980

(Numbers in millions)

Year	Total U.S. population	Hispanics	Hispanic population increase in preceding decade	Hispanic percent of U.S. population
1950	151.3	4.0	—	2.7
1960	179.3	6.9	2.9	3.9
1970	203.2	10.5	3.6	5.2
1980	226.5	14.6	4.1	6.4

Sources: U.S. population: Bureau of the Census, various census reports; Hispanic population: JoAnne Willette, et al, *The Demographic and Socioeconomic Characteristics of the Hispanic Population in the United States: 1950-1980*, report to the Department of Health and Human Services by Development Associates, Inc., and Population Reference Bureau, Inc., January 18, 1982.

than 70,000 Puerto Ricans had settled on the mainland by the time of the 1940 census, however. But in the 1950s alone, job opportunities and the advent of regular and cheap plane service between San Juan and New York City attracted a net influx of half a million Puerto Ricans to the mainland, primarily New York City—a tremendous flow for a country with a 1950 population of 2.2 million.[4]

Fewer than 50,000 Cubans lived in the U.S. before Castro overthrew the regime of Fulgencio Batista in 1959, many of them making cigars in Florida or New York City.[5] The first post-revolutionary wave of exiles brought about 260,000 largely affluent, professional Cubans to the U.S. before air traffic between the two countries was temporarily ended, following the 1962 missile crisis. A refugee airlift agreed upon by Castro and the Johnson Administration in 1965 brought in 344,000 more Cubans before Castro cut off emigration in 1973. Thousands more arrived clandestinely by small boat or through Mexico or Spain in the following years, climaxed by the mass influx of 125,000 Cubans in the Mariel boatlift which Castro permitted from April to September 1980.

Stimulated by changes in U.S. immigration law, numbers of immigrants from all other Spanish-speaking countries have increased dramatically from about 33,000 arriving in 1950-54 to nearly 300,000 in 1975-79, according to the Immigration and Naturalization Service (INS).[6] These countries taken together have now replaced Mexico as the largest supplier of new legal immigrants to the U.S.

Growth since 1950

With heavy immigration added to relatively high fertility, the U.S. Hispanic population has soared since 1950. While the total U.S. population grew by just under 50 percent from 1950 to 1980, the increase for Hispanics was about 265 percent, as seen in Table 2. The black population—the country's other significant minority—accounted for 9.9 percent of the U.S. population in 1950 and increased its share to 11.7 percent by 1980. In the same period, the Hispanic population went from about 2.7 to 6.4 percent of the U.S. total, making it without question the country's fastest-growing minority.

The 1950, 1960, and 1970 figures for Hispanics shown in Table 2 are estimates which attempt to make up for some of the deficiencies in the data for this population. Collection of data on all Hispanics began only with the 1970 census. The census count for Hispanics in 1970, based on the Spanish-origin question, was 9.1 million.[7] Using this as a base, the Census Bureau projected that the 1980 count would be 13.2 million.[8] The actual count (based on the 1980 Spanish-origin question) turned out to be 14.6 million—1.4 million higher.[9] The difference was probably due to better reporting by Hispanics in 1980.* The census was preceded by a well orchestrated

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*The 14.6 million figure for 1980 is undoubtedly also an undercount of Hispanics actually in the U.S. on Census Day, April 1, 1980, but the Census Bureau has not yet completed its analysis of this undercount. For 1970, the Bureau estimated that the undercount for Hispanics fell somewhere between that of the white population (1.9 percent) and that of the black population (7.7 percent).

Table 3. U.S. Hispanic Population, by Type: 1980

Type	Number (in thousands)	Percent	States with largest concentrations
Total Hispanic	14,609	100.0	California, Texas, New York
Mexican American	8,740	59.8	California, Texas, Illinois
Puerto Rican	2,014	13.8	New York, New Jersey, Illinois
Cuban	803	5.5	Florida, New Jersey, New York
Other Hispanic	3,052	20.9	California, New York, New Mexico

Source: Bureau of the Census, "Persons of Spanish Origin by State: 1980," *1980 Census of Population*, Supplementary Report, PC80-S1-7, August 1982.

campaign to improve minority cooperation and coverage, the Spanish-origin question was much improved and appeared early in the questionnaire sent to every household in the country, and the very awareness of Hispanics as a population had probably increased since 1970. Another part of the story may be the increased number of illegal immigrants during the 1970s, some of whom—reassured of anonymity—were willing to answer the questionnaire. It has now been estimated that the 1980 census count of 226.5 million for the total U.S. population included at least 2 million illegal immigrants, with about 1.3 million from Latin American countries (see page 27).

Starting from the 1980 Spanish-origin count of 14.6 million, the Hispanic population estimates shown in Table 2, prepared by the Population Reference Bureau for the U.S. Department of Health and Human Services, were derived by projecting the population back to 1950, using INS data on legal immigrants by country of birth and assumptions about Hispanic mortality based on available estimates. This procedure increases the 1970 figure from the original Spanish-origin census count of 9.1 million to 10.5 million. The estimates for the three decades indicate that the U.S. Hispanic population grew from about 4 million in 1950 to 14.6 million in 1980 and that the numbers added rose from about 2.9 million during the 1950s to about 4.1 million in the 1970s.

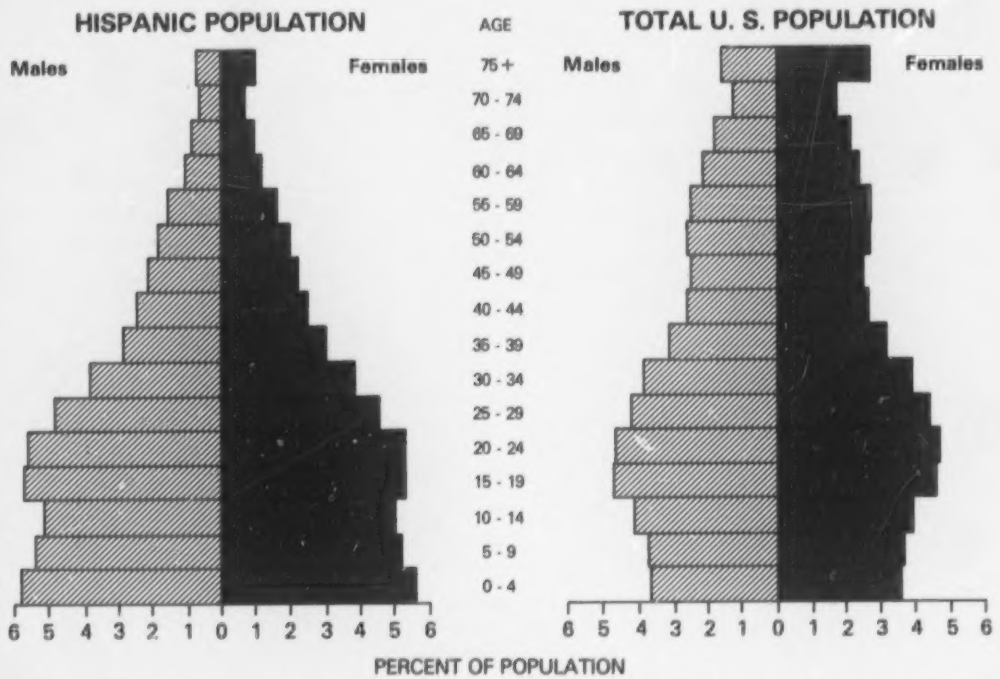
The ethnic mix of Hispanics has changed. Mexican Americans, the overwhelming majority before 1950, accounted for only 60 percent by 1980, with 8.7 million persons (see Table 3). Persons of Spanish origin from countries other than Mexico, Cuba, or Puerto Rico now number 3 million and account for one in every five Hispanics, a factor which lends even more diversity to this growing minority. Puerto Ricans rank third with a count of 2 million and 14 percent of the 1980 Hispanic population, and the 803,000 Cubans put them in fourth place with 6 percent.

Age and Sex Composition

Hispanics as a whole are younger, on average, than both the general U.S. population and blacks. In 1980, the median age for the Hispanic population was 23, compared to 30 for the total U.S. population and 25 for the black population. (The median marks the point at which half the population is younger and half is older.) Neary one-third (32 percent) of Hispanics were younger than 15 and only 5 percent were 65 or older. By contrast, only 23 percent of all Americans were under 15 and 11 percent were age 65 or older.[10]

The youthfulness of the Hispanic population is due both to relatively high fertility and heavy immigration of young adults. These effects can be seen in the shape of the age-sex structure of the Hispanic population as of the 1980 census, contrasted with the pyramid for the total U.S. population (Figure 2). The relatively large

Figure 2. Age-Sex Composition of the Hispanic and Total U.S. Population: 1980



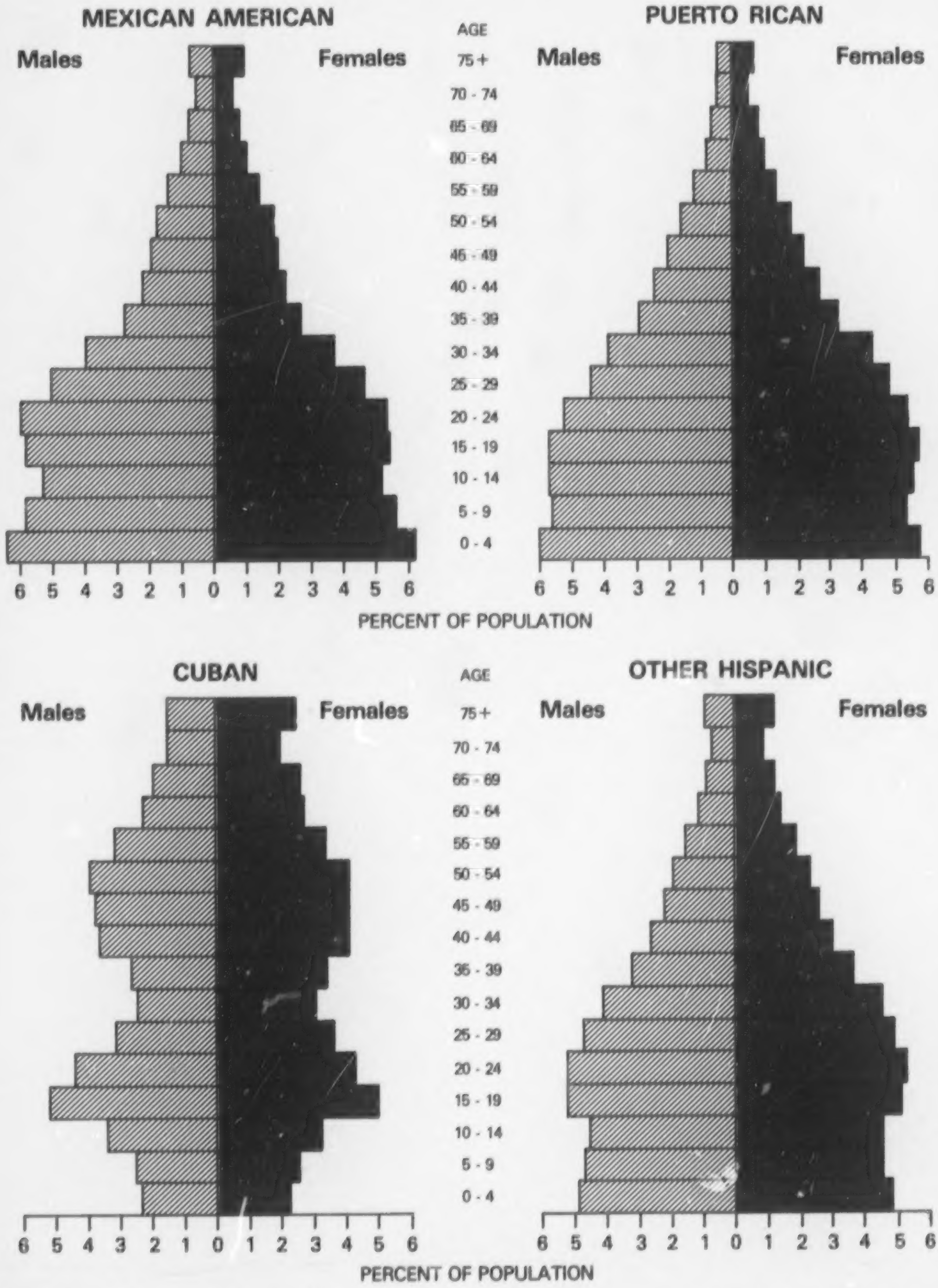
Source: Bureau of the Census, "Age, Sex, Race, and Spanish Origin of the Population by Regions, Divisions, and States: 1980," *1980 Census of Population*, Supplementary Report, PC80-S1-1, 1981.

proportion of children in the Hispanic pyramid reflects both the larger than average family sizes of Hispanics and the fact that a substantial proportion of immigrants are in the prime childbearing ages; in the last half of the 1970s, more than one-third of legal immigrants from Spanish-speaking countries were aged 20-34,[11] and this is undoubtedly also true of illegal immigrants. In the U.S. pyramid, the waxing and waning of the baby boom, which peaked from 1955 to 1964, is evident in the bulge at ages 15-24 and the constriction at younger ages.

As the baby boom generation passes out of the childbearing ages, succeeding U.S. birth cohorts will become smaller and smaller, if the U.S. rate of childbearing remains near the current low level of 1.8 children per woman. Among Hispanics, by contrast, continuing replenishment of the childbearing population through immigration, plus a fertility rate still about 2.5 children per woman—well above "replacement" level—guarantees larger cohorts of children for some time to come.

The Hispanic population is also somewhat more "male" than the U.S. average. The 1980 census counted 99 Hispanic men for every 100 women, while there were just 94 males for every 100 females in the total population. Though men slightly outnumber women among Hispanic immigrants as a whole, the main reason for this is the youthfulness of the Hispanic population. Compared to the general population, there are more Hispanics in the younger ages where males still outnumber females (about 105 males are born for every 100 females) and fewer in the older ages where women's longer life expectancy gives them the edge.

Figure 3. Age-Sex Composition of the Four Hispanic Groups: 1980



Sources: Bureau of the Census, *1980 Census of Population, General Population Characteristics,* PC80-1B, various state issues.

Relative youthfulness and large proportions of children are also evident in the 1980 age-sex pyramids for the Mexican-American, Puerto Rican, and "Other Hispanic" populations shown in Figure 3. Mexican Americans have the highest fertility of all Hispanic groups, as is apparent in the even broader base of their pyramid, and are the youngest, with a median age of just 22 in 1980. Their pyramid also has a slightly more pronounced bulge and excess of males in the main migration ages of 15-29 than those of Puerto Ricans and Other Hispanics.

The pyramid for Cubans is radically different. The bulges at ages 40-59 and 15-24 reflect the young and middle-aged Cubans who arrived in the 1960s and early 1970s and their children; the narrow base demonstrates Cubans' very low current fertility. Not shown in this pyramid are the further distortions in the age-sex composition of the Cuban population caused by the 125,000 Cubans, mostly young males, who arrived in the Mariel boatlift too late to be counted in the April 1, 1980, census. Because Cubans are just 6 percent of all U.S. Hispanics, their low fertility (even lower than the national average) and much older age (a median of 41 years in 1980) are outweighed in statistics on all Hispanics.

Where Hispanics Live

Today there are Hispanics in every state of the U.S., including Vermont (which had the fewest in 1980, 3,304), and the outlying states of Alaska (9,507), and Hawaii (71,263). But Hispanics still cluster in certain states and metropolitan areas, where they have become a powerful—even dominating—influence. California, with 4.5 million Hispanics, was home to almost one of every three Spanish-origin residents counted in the 1980 census. Add in Texas, with nearly 3 million Hispanics, and New York state, with 1.7 million, and 63 percent of the Hispanic population in 1980 has been accounted for. Florida, with 858,000 Hispanics, ranked fourth in number of His-

Table 4. Top Nine States in Hispanic Population: 1970 and 1980

(States with 250,000 or more Hispanics in 1980)

State	1970			1980		
	Rank	Number of Hispanics	Percent distribution	Rank	Number of Hispanics	Percent distribution
United States, total	—	9,072,602[a]	100.00	—	14,608,673	100.0
California	1	2,369,292	26.1	1	4,544,331	31.1
Texas	2	1,840,648	20.3	2	2,985,824	20.4
New York	3	1,351,982	14.9	3	1,659,300	11.4
Florida	4	405,036	4.5	4	858,158	5.9
Illinois	5	393,204	4.3	5	635,602	4.4
New Jersey	7	288,488	3.2	6	491,883	3.4
New Mexico	6	308,340	3.4	7	477,222	3.3
Arizona	8	264,770	2.9	8	440,701	3.0
Colorado	9	225,506	2.5	9	339,717	2.3
Total in nine top states		7,447,266	82.1		12,432,738	85.1

Source: Bureau of the Census, "Persons of Spanish Origin by State," *1980 Census of Population*, Supplementary Report, PC80-S1-7, August 1982.

[a] Unadjusted 1970 Spanish-origin total which differs from 1970 total in Table 3. See text, page 9, for explanation.

panics. Only five other states had more than 250,000 Hispanics apiece in 1980—Illinois, New Jersey, New Mexico, Arizona, and Colorado. Together, these nine states contained 85 percent of the U.S. Hispanic population—12.4 million (see Table 4, and the map on page 2).

Hispanics made up 19 percent of the population in California, the nation's most populous state, and 21 percent in Texas, the third most populous state. They were almost 10 percent of the population in New York, the second most populous state. New Mexico's population has the highest proportion of Hispanics—37 percent—and they make up 16 percent of Arizona's population and 12 percent in Colorado.

Hispanics of different origins are even more geographically concentrated. In 1980, 73 percent of the 8.7 million Mexican Americans lived in California and Texas alone and another 10 percent in the other three southwestern states of Arizona, Colorado, and New Mexico. Illinois, with more than 400,000, was the only state outside the Southwest with a sizable number of Mexican Americans. Fully 61 percent of the 2 million Puerto Ricans lived in New York and New Jersey, and another 6 percent in Illinois. Florida was home to nearly 59 percent of the 803,000 Cubans counted in the 1980 census and this one state became even more the Cuban center when an estimated 120,000 of the "Marielitos" later chose to resettle there.

The 3 million Hispanics in the "Other Hispanic" group were more scattered, but still only seven states had more than 100,000 each of this fourth group. In California, with the largest number (753,000), there were sizable communities of Salvadorans, Guatemalans, and Nicaraguans. New York, also with more than half a million "Other Hispanics," has attracted many Dominicans, Colombians, and Ecuadorans. Other Hispanics are also becoming increasingly evident in the Miami and Chicago areas. The "Other Hispanics" in New York, New Jersey, Florida, and Illinois are mostly immigrants from Central and South American countries, while it is likely that the "Other Hispanics" in Texas, New Mexico, and Colorado are largely Hispanos who preferred not to identify themselves as Mexican Americans in the census. California's "Other Hispanics" are a mixture of Hispanos and Central and South Americans.

Though the proportion of all Hispanics living in the nine most Hispanic states increased from 82 percent to 85 percent between 1970 and 1980 (see Table 4), the 1980 census actually showed that Hispanics are becoming less regionally concentrated. The proportion of Mexican Americans living in the five southwestern states dropped from 87 to 83 percent between 1970 and 1980, and the proportion of Puerto Ricans in New York, New Jersey, and Illinois declined from 80 to 67 percent. On the other hand, the percentage of Cubans living in Florida rose from 46 to 59 percent during the 1970s and the share of "Other Hispanics" living in California and New York went up from 28 to 43 percent.

City dwellers

Though perceived by many as rural, Hispanics are a highly urban population. Fully 88 percent live in metropolitan areas, according to the 1980 census, compared to 75 percent of the general population and 81 percent of blacks.[12] Moreover, 50 percent of U.S. Hispanics live in the central cities of metropolitan areas. This is far more than the 30 percent of the general population living in central cities.

Table 5 (page 14) lists the 29 of the nation's 318 Standard Metropolitan Statistical Areas where Hispanics numbered more than 100,000 in 1980. Over 3½ million lived in the Los Angeles and New York areas alone—almost one-quarter of all Hispanics in the U.S. Mexican Americans are the largest Hispanic group in most of the 29 SMSAs listed in Table 5. However, Cubans are the most metropolitan of Hispanics; virtually 100 percent are metro dwellers in the four states with

Table 5. Standard Metropolitan Statistical Areas with 100,000 or More Hispanics in 1980

Standard Metropolitan Statistical Area[a]	Hispanics in SMSA	Hispanics in central city	Largest Hispanic group and its percent of all Hispanics in SMSA
Los Angeles-Long Beach, CA	2,065,727	866,689	Mexican, 80%
New York, NY-NJ	1,493,081	1,405,957	Puerto Rican, 60%
Miami, FL	581,030	194,087	Cuban, 70%
Chicago, IL	580,592	422,061	Mexican, 64%
San Antonio, TX	481,511	421,774	Mexican, 93%
Houston, TX	424,901	281,224	Mexican, 88%
San Franciso-Oakland, CA	351,915	115,864	Mexican, 54%
El Paso, TX	297,001	265,819	Mexican, 95%
Riverside-San Bernardino-Ontario, CA	289,791	81,671	Mexican, 87%
Anaheim-Santa Ana-Garden Grove, CA	286,331	145,253	Mexican, 81%
San Diego, CA	275,176	130,610	Mexican, 83%
Dallas, Ft. Worth, TX	249,613	159,778	Mexican, 89%
McAllen-Pharr-Edinburg, TX	230,212	86,393	Mexican, 96%
San Jose, CA	226,611	140,574	Mexican, 78%
Phoenix, AZ	198,999	115,572	Mexican, 89%
Denver-Boulder, CO	173,362	94,933	Mexican, 63%
Albuquerque, NM	164,200	112,084	Other Hispanic, 56%
Brownsville-Harlingen-San Benito, TX	161,632	116,076	Mexican, 86%
Corpus Cristi, TX	158,123	108,175	Mexican, 96%
Fresno, CA	150,820	51,489	Mexican, 93%
Jersey City, NJ	145,163	41,672	Puerto Rican, 38%
Newark, NJ	132,356	61,254	Puerto Rican, 47%
Philadelphia, PA-NJ	116,280	63,570	Puerto Rican, 68%
Oxnard-Simi Valley-Ventura, CA	113,241	64,223	Mexican, 89%
Tucson, AZ	111,418	82,189	Mexican, 90%
Nassau-Suffolk, NY	101,418	[b]	Puerto Rican, 49%
Sacramento, CA	101,692	39,160	Mexican, 77%

Sources: Bureau of the Census, "Standard Metropolitan Statistical Areas and Standard Consolidated Statistical Areas: 1980," *1980 Census of Population*, Supplementary Report, PC80-S1-5, October 1981; and Cheryl Russell, "The News About Hispanics," *American Demographics*, March 1983, p. 17.

[a] A Standard Metropolitan Statistical Area (renamed Metropolitan Statistical Area as of July 1983) is a county with a central city (or urbanized area) of at least 50,000 population, plus adjacent counties that are economically linked with that county.
[b] Does not contain a central city.

the most Cubans (Florida, New Jersey, New York, and California).

Miami is the undisputed Cuban center. Over half the country's Cuban Americans live in the Miami area where Cubans make up 70 percent of Hispanics. The Cuban influence has transformed Miami from a resort town to a year-round commercial center with linkages throughout Latin America and a leading bilingual cultural center. The Los Angeles area is the Mexican-American metropolitan capital. Mexicans comprise 80 percent of Hispanics in the area, 22 percent of the total population, and one-fifth of all Mexican Americans in the country. San Antonio, however, where Mexican Americans make up 93 percent of Hispanics and are also the population majority in the central city, can claim to be the first large U.S. city with a Mexican-American mayor—Henry Cisneros, elected in 1981. Puerto Ricans began flowing into New York City during the 1950s and, with 43 percent of all Puerto Ricans in the country, the New York metropolitan area is still the hub of Puerto Rican life on the mainland.

Fertility

Although immigration may appear to be the major spur to the growth of the U.S. Hispanic population, an estimated two-thirds of that growth actually stems from Hispanics' relatively high fertility, combined with mortality that is probably no higher than that of non-Hispanics. The available data suggest that the fertility of Hispanic women as a group—though lower than it was two decades ago—is about 60 percent higher than the non-Hispanic average and 50 percent higher than the average for all U.S. women. It is also higher than black fertility. Mexican-American women have the highest fertility among Hispanics, while Cuban women's fertility is far below even that of non-Hispanic women.

Hispanic fertility is difficult to estimate because accurate counts of the "true" Hispanic population are still so elusive and systematic registration of births by Hispanic origin began only in 1978 and so far covers only 22 states (though an estimated 90 percent of the Hispanic population). One clue, however, is the "child-woman ratio," or the number of children under age five per 1,000 women aged 15-44, calculated from the 1980 census. As seen in Table 6, this ratio was 462 for Hispanic women, 55 percent higher than the ratio of 298 for non-Hispanic women of childbearing age and 26 percent higher than the black ratio of 366. Also, as already noted, 32 percent of the total Hispanic population counted in the 1980 census were children under age 15. This compares with 29 percent in the black population and 22 percent among all non-Hispanics.

Table 6. Child-Woman Ratio and Percentage of Children Among Hispanics, Non-Hispanics, and Blacks: 1980

Population	Children aged 0-4 per 1,000 women aged 15-44	Percent of population under age 15
Hispanic	462	32.0
Non-Hispanic	298	22.0
Black	366	28.7

Source: Bureau of the Census, "Age, Sex, Race, and Spanish Origin of the Population by Regions, Divisions, and States: 1980," *1980 Census of Population*, Supplementary Report, PC80-S1-1, 1981.

Table 7 shows birth rates and fertility rates for 1979 that could be computed by the National Center for Health Statistics (NCHS) for nine of the 19 states where births were by then being recorded by Hispanic origin of mother and father. The most recently published from birth registration information, these 1979 rates cover less than 60 percent of the Hispanic population and exclude the heavily Hispanic states of Texas and New Mexico, which, along with Georgia, began registration of births by Hispanic origin only in 1980. The "crude" birth rate for all Hispanics of 25.5 births per 1,000 population was 73 percent higher than the birth rate of 14.7 per 1,000 of the non-Hispanic population. However, the gap was less when measured by the number of births per 1,000 women of childbearing age (15-44), a more accurate measure of

Table 7. Birth Rates and Fertility Rates, by Hispanic Origin: Nine States, 1979

Ethnic group	Births per 1,000 population	Births per 1,000 women aged 15-44
All origins	15.6	66.7
Non-Hispanic	14.7	63.2
All Hispanic	25.5	100.5
Mexican American	29.6	119.3
Puerto Rican	22.6	80.7
Cuban	8.6	39.7
Other Hispanic	25.7	95.9

Source: Stephanie J. Ventura, "Births of Hispanic Parentage, 1979," *Monthly Vital Statistics Report*, Vol. 31, No. 2, Supplement, May 1982.

Note: The nine states are Arizona, California, Colorado, Florida, Illinois, Indiana, New Jersey, New York, and Ohio.

fertility. Here the 100.5 rate for Hispanic women as a whole was 59 percent higher than the rate of 63.2 for non-Hispanic women, but only 51 percent higher than the rate of 66.7 births per 1,000 among all women aged 15-44 in the nine reporting states. The latter results tally well with results from the Census Bureau's June 1980 Current Population Survey. Among the 36,000 women aged 18-44 included in the nationwide sample, there were 107 births per 1,000 Hispanic women in the 12 months preceding the survey.[13] This rate was also 51 percent higher than the rate for all women—71—and it was 27 percent higher than the black rate of 84.

The Mexican-American rate of 119.3 births per 1,000 women aged 15-44 shown in Table 7 is the highest among the four Hispanic groups. The rates for Puerto Ricans (80.7) and "Other Hispanic" women (95.9) are also much higher than the rates for non-Hispanics (63.2) and for all women (66.7). The Cuban rate of 39.7 is far below all others. Stephanie Ventura, author of the NCHS report, attributes this partly to the relatively older age of Cuban women in Florida (more of those aged 15-44 are in the low-fertility years of 35-44 than are their Mexican and Puerto Rican counterparts), but it probably also reflects the low family-size preferences of the relatively affluent and better educated Cuban population.[14]

Reasons for higher Hispanic fertility

Except for Cubans, Hispanics have less education, lower family incomes, and are much more likely to be living in poverty than the general U.S. population, as we shall see later. This undoubtedly explains much of their higher fertility, for these factors are correlated with relatively high fertility among all U.S. groups. The Census Bureau's June 1980 survey, for example, found a rate of 94 births per 1,000 women in families with incomes under $5,000 per year compared to just 49 per 1,000 women in families with incomes of $25,000 and over. The NCHS found that only 47 percent of all Hispanic women and 37 percent of Mexican-American women reported to have had a birth in 1979 had completed at least 12 years of schooling, compared to 78 percent among the non-Hispanic mothers and 77 percent among Cubans. Ventura comments that these lower levels of schooling among non-Cuban Hispanics were partly due to "the relatively larger proportion of births to teenagers among Hispanic mothers."[15] Fully 19 percent of Hispanic women in the study who had a birth in 1979 were under age 20, compared to 15 percent for all mothers. The proportion of teenage births for Mexican women was 20 percent and a still higher 23 percent for Puerto Rican women.

Traditional preferences for large families in the countries from which most Hispanics originate probably also play a role. Cuba currently has an exceptionally low fertility rate for a developing country—just 1.8 births per women, the same as that of the U.S.[16] Puerto Rico's rate of 2.7 is considerably higher, but still well below the Latin American average of 4.3 births per woman. More typical is Mexico's experience. At the beginning of the 1970s, Mexico's fertility rate was over 7 births per woman. However, in less than a decade it has dropped to about 4.7 births per woman in the wake of a vigorous government family planning program.[17] Other Latin American countries have now launched family planning programs to reduce population growth and it is probable that many recent Hispanic immigrants to the U.S. have had some experience with contraception.

To judge from a 1979 survey of 2,100 women of childbearing age living on the U.S. side of the Mexican border, contraceptive use is quite high among Hispanics in the U.S., but not so high as for non-Hispanics. Some 66 percent of the currently married Hispanic women surveyed were using contraception, compared to 75 percent among "Anglos" (white, non-Hispanic).[18] However, the differences were not significant among

Table 8. Births to Date and Total Births Expected in Lifetime, Hispanic and All Married Women: 1973, 1975, 1978, 1981

(Numbers are births per currently married woman)

Year and group	Total, aged 18-34		Women 18-24		Women 30-34	
	Births to date	Lifetime births expected	Births to date	Lifetime births expected	Births to date	Lifetime births expected
Hispanic women						
1973	2.1	3.0	1.1	2.6	3.3	3.8
1975	1.9	2.7	1.0	2.2	3.0	3.2
1978	1.8	2.6	1.1	2.4	2.8	3.0
1981	1.9	2.6	1.1	2.3	2.5	2.8
All women						
1973	1.7	2.5	0.9	2.3	2.6	2.8
1975	1.6	2.3	0.8	2.2	2.4	2.6
1978	1.5	2.3	0.8	2.2	2.2	2.4
1981	1.5	2.2	0.9	2.2	2.0	2.2

Source: Carolyn C. Rogers, "Fertility of American Women: June 1981," *Current Population Reports*, Series P-20, No. 378, April 1983, Table 1.

women under 35, which suggests that younger Hispanic married women may be about as likely to practice contraception as their non-Hispanic counterparts. Never-married Hispanic women were only half as likely to be using contraception as single Anglo women, however, though equal proportions in both groups (12 percent) reported that they were sexually active.

Closing the gap

Although Hispanic fertility is still well above the national average, there is evidence that it has been falling in concert with that of all U.S. women since the mid-1950s. This suggests that the gap should eventually be closed.

Using census data on "own children," demographers Robert Rindfuss and James Sweet calculated that Hispanic women's fertility dropped by 25 percent between 1955 and 1969. A study by the Centers for Disease Control noted a similar decrease from 1970 to 1977 among Spanish-surnamed women in Texas.[19] Data from the Census Bureau's Current Population Survey displayed in Table 8 show that the decline continues. In 1973, Hispanic married women aged 30-34 reported that they had had 3.3 births to date; by 1981, the average for such women was down to 2.5. In 1981, these women still expected to have an average of 2.8 children during their lifetime, compared to 2.2 for all married women aged 30-34. But young Hispanic married women aged 18-24 in 1981 said they expected an average of 2.3, virtually the same as the 1981 national average of 2.2 for all married women aged 18-24.

Thus, the fertility of U.S. Hispanic women as a group—now probably about 2.5 births apiece—is likely to continue to decline. Actual convergence with the U.S. national average may be somewhat delayed, however, as each year brings a new wave of legal and illegal immigrants reared in traditions of somewhat larger families. From a demographic standpoint, it is also significant that Hispanic fertility is still well above the "replacement" level of about two children per woman needed to stop population growth in the long run, and may remain above that level for some time to come.

Mortality and Health

In mortality levels there may be no overall gap between Hispanics and non-Hispanics; in fact, Hispanic life expectancy may now be even slightly higher than that of all U.S. white persons and certainly higher than that of blacks. But this conjecture is based only on studies of Hispanic mortality in Texas and one in California. So far, there are no nationally representative mortality data for Hispanics.

This will be rectified later in 1983 when the NCHS plans to issue a first report on Hispanic mortality in the 22 states that now include a question about Hispanic origin on death certificates as well as on birth certificates.[20] This question has proved to be more of a problem for death registration, however. Birth certificates are filled out by hospital staff with the mother available to respond to the ethnic query, but death certificates are completed by funeral directors who must rely on the often less reliable information supplied by relatives, friends, or neighbors, or on their own observation. Compliance with the request for Hispanic-origin information has often been poor or arbitrary. California, for example, has not coded this question for half of its recently reported death certificates and in New Mexico, all certificates not checked for the ethnic identifier are assumed to be non-Hispanic.

A study based on Texas State Department of Health data for 1970 revealed life expectancies at birth for the Spanish-surnamed population of the state very close to those of the national population at the time: 67.2 years compared to the national average of 67.1 among males, and 73.4 versus 74.8 years among females.[21] Two studies of age-specific death patterns derived from 1970 census data for California and Texas found higher infant mortality and much higher mortality for young adult males among the Spanish-surnamed population than for the U.S. white population.[22] Nevertheless, life expectancies at birth for Hispanics were similar to those of non-Hispanics. The first study based on 1980 census data for the state of Texas suggests, with caveats on the quality of the data, that Hispanic life expectancy may now be higher than that of the total U.S. white population.[23] Among males, life expectancy was 71.4 years for the Texas Spanish-surnamed population, compared to 70.2 for all white males in the U.S. in 1978, and for females the figures were 79.5 and 77.2, respectively. Black life expectancies in 1978 were 64.0 years for males and 72.7 for females.[24]

Table 9. Hispanic, Black, and All Families: 1981

Family type and presence of own children under 18	Hispanic	Black	All families
All families			
Number (in thousands)	3,235	6,317	60,309
Percent	100.0	100.0	100.0
Married-couple families	73.1	53.7	81.7
With own children	51.7	30.7	41.3
No own children	21.5	23.0	40.4
Single-parent/child families	18.2	30.6	10.4
Mother and own children	16.3	28.9	9.3
Father and own children	1.9	1.8	1.1
Other families	8.7	15.7	7.8

Source: Bureau of the Census, "Household and Family Characteristics: March 1981," *Current Population Reports*, Series P-20, No. 371, May 1982, Tables 12 and 13.

For Hispanics other than Mexican Americans (who predominate in Texas and California) there is only indirect evidence on life expectancy. Puerto Rico and Cuba both have good vital registration data that indicate that their life expectancies are near or even above U.S. levels. Thus, immigrants from these countries probably also have mortality rates on a par with U.S. national averages. "Other Hispanics," of course, come from many countries, some with

Table 10. Marital Status of Hispanic, Black, and All Persons Aged 15 and Over: 1981

(Numbers in percent)

Marital Status	Hispanic		Black		All persons	
	Males	Females	Males	Females	Males	Females
Total	100.0	100.0	100.0	100.0	100.0	100.0
Never married	34.0	26.0	41.0	33.7	29.4	22.5
Married, spouse present	55.2	52.6	41.1	32.8	60.2	54.8
Married, spouse absent	5.2	7.8	7.0	11.4	2.8	3.7
Separated	2.5	6.4	5.8	10.1	1.9	2.9
Other	2.6	1.4	1.2	1.2	0.9	0.8
Widowed	1.6	6.0	3.7	12.7	2.3	11.9
Divorced	4.0	7.7	7.3	9.5	5.3	7.1

Source: Bureau of the Census, "Marital Status and Living Arrangements: March 1981," *Current Population Reports*, Series P-20, No. 372, 1982, Table 1.

life expectancies well below those of men and women in the U.S. Immigrants may be healthier than their compatriots who stay at home, but there is no information on this or on how "Other Hispanics" tie into the U.S. health care system.

Considerably more will soon be known about the health of U.S. Hispanics. Launched in the fall of 1982 by NCHS, the Hispanic Health and Nutrition Examination Survey is currently collecting information from a sample of 16,000 Mexican Americans in the Southwest, Cubans in Miami, and Puerto Ricans in New York City on medical histories, diet, nutrition, physical measurements, and use and need for health services. Results from the two-year study are to be published in late 1985.

Family and Marital Status

Hispanics are less likely than the general U.S. population to be living in married-couple families and much more likely to be in families headed by a single parent, almost always the mother. But in both respects they fare much better than blacks.

In 1981, as Table 9 shows, 73 percent of the nation's 3.2 million Hispanic families were headed by a married couple, compared to 82 percent of all families and just 54 percent of black families. Fifty-two percent of Hispanic families had children living at home—higher than the 41 percent among all families.

Single parents with children under 18 comprised 18 percent of all Hispanic families. This was three-quarters higher than the proportion among all families (10 percent) but well below the proportion among blacks (31 percent). Fully 16 percent of Hispanic families in 1981 were maintained by a woman alone, compared to 9 percent among all families. Puerto Rican families are far more likely than other Hispanic families to be maintained by a woman—40 percent were in 1979, versus just 15 percent among Mexican Americans and 17 percent among other Hispanics, including Cubans.[25]

Because of their higher fertility, Hispanic family households are larger than the national average. In 1981, Hispanic families averaged 3.9 persons each, compared to 3.3 among all families and 3.7 for blacks.[26]

Marital status

Although Hispanics marry as readily as all Americans, they are somewhat more likely to separate or divorce, which explains their higher proportion of female-headed families. Fourteen percent of Hispanic women aged 15 and over were separated or divorced in 1981—more than the 10 percent for all women this age but, again, lower than the proportion among black women, which was nearly 20 percent (Table 10, page 19). In the same year there were 146 divorced Hispanic women for every 1,000 Hispanic women who were married and living with their husbands.[27] For all women, the ratio was 129, and for black women, 289. On the other hand, 53 percent of Hispanic women over 15 were married and living with their husbands in 1981, very close to the 55 percent among all women. Hispanics tend to marry somewhat earlier than other Americans do. In 1981, about 25 percent of Hispanic women under age 20 were or had been married, compared to 15 percent among all teenage women and only 7 percent among black women under 20.

Thus, while the marital experience of Hispanics is more similar to the U.S. average than that of blacks, Hispanics are somewhat more likely to dissolve their marriages. This leads in turn to somewhat higher proportions of female-headed households, which is a factor in Hispanics' lower family incomes, as noted later.

Immigration

Hispanics' increasing visibility on the American scene reflects a striking shift in the pattern of immigration to the U.S. From 1930 to 1960, Europeans still dominated the immigrant influx—41 percent from Northern and Western Europe, and 17 percent from Southern and Eastern Europe. Latin Americans made up only 15 percent of total legal immigration. Since 1960, Latin Americans have averaged 40 percent of the total. By 1975-79, they were up to 42 percent, outpacing legal immigrants from Asia (39 percent) and Europe (down to 13 percent).[28] The total numbers have also been rising. Immigration and Naturalization Service (INS) statistics put the number of Hispanic immigrants entering the country legally at 956,000 during the 1950s, 1.3 million in the 1960s, and 1.4 million in the 1970s. Added to this is a growing, if unknown, number of illegal immigrants arriving from Latin America.

This shift in the origins of immigrants has had all the more impact on the makeup of the U.S. population because net immigration has become an increasingly important part of annual population growth as fertility has declined. In 1981, for example, it has been estimated that natural increase (births minus deaths) accounted for 57 percent of population growth; 43 percent was contributed by 1.2 million immigrants—480,000 legal immigrants, 217,000 refugees, and an estimated 500,000 illegal immigrants.[29]

Behind the shift are some stark demographic and economic figures. Latin America's labor force is growing by 4 million a year; that of Mexico and the rest of Central America by 1.2 million a year. Forty percent of their current work force is unemployed or working only a few hours a week or days in the year.[30] Per capita income for all Latin America was $2,063 in 1981. For the U.S.—even as the recession deepened—it was $12,530.[31]

Equally important in the shift to Latin American predominance among immigrants was the change in U.S. policy signaled by passage of the Immigration and Nationality Act of 1965, which came into force in 1968. Responding to an increased influx of Latin American immigrants, this imposed for the first time a numerical limit on legal immigration from the Western Hemisphere—120,000 annual arrivals, admitted on a first-come, first-served basis. At the same time, Eastern Hemisphere countries became subject to a 170,000 overall ceiling, plus a 20,000 annual per-country limit based on a complicated preference system which stressed job skills and reunification with close family members already in the U.S. This abolished a quota system in effect since the 1920s that had favored immigrants from Northern and Western Europe.

The result was an increase in the percentage of legal immigrants from non-European countries. It also left many would-be Mexican migrants to the U.S. without legal means of entry, coming as it did just after Congress had ended the *bracero* program which, at its peak, had brought to the U.S. over 400,000 temporary Mexican workers annually.[32] Without the visa preference system, there was little control over legal admissions of Latin Americans. To change this and put Latin America on an "equal footing" with the rest of the world, the U.S. in 1977 extended the visa preference system and the 20,000 per-country annual limit to the Western Hemisphere. This put the most severe restriction ever on immigration from the Western Hemisphere and probably stimulated illegal immigration of persons who did not qualify for a preference or refused to wait out the many years it often now takes to gain clearance.

In 1978, the hemisphere quotas were replaced with a single worldwide ceiling of 290,000, later changed to 270,000 excluding refugees, with no more than 20,000 from any one country. Immediate relatives of U.S. citizens are admitted in addition to the 270,000 limit, however, which raised the total of legal immigrants to 480,000 in 1981, for example. Another component of the legal influx are refugees, for which quotas are set annually under the terms of the Refugee Act of 1980; 140,000 refugee slots were allocated in 1982. The 125,000 Cubans of the Mariel boatlift, along with 10,000 Haitians who also sought refuge in the U.S. during 1980, were admitted under still another category as special "entrants."

The growing share of Latin Americans among immigrants has aroused public concern about the impact on American standards and values of an ethnically and culturally distinct group endowed with socioeconomic characteristics perceived as inferior to those of the "average" American. Forgotten are the similar concerns voiced at the turn of the century when immigrants from Southern and Eastern Europe began to outnumber those from Northern and Western Europe. The degradation of U.S. society predicted at that time has obviously not come to pass.

The Big Meal
National Council of La Raza

Jobs are the lure for Hispanic immigrants to the U.S.

One issue unique to Hispanics, however, is that they share a common language. This has helped them develop a group identity and increased leverage in demands for special attention and services. It has also provoked a negative response from those who fear the U.S. will be forced into bilingualism, or at least the sort of linguistic factionalism most recently evident in Canada. In 1981, now retired Senator S. I. Hayakawa proposed a resolution to amend the U.S. Constitution to make English the country's official language. Voters in Dade County, Florida, where Miami is located, in November 1980 overturned a countywide policy of bilingualism adopted in 1973.

In numbers is strength, however. Thus Hispanics are likely to continue to dominate immigration to the U.S. to the disadvantage of white non-Hispanics and blacks from other countries who currently

Table 11. Hispanic Immigration into the U.S., by Ethnic Group: 1950-1980

	1950-59		1960-69		1970-79	
Ethnic group	Number of migrants	Percent of total	Number of migrants	Percent of total	Number of migrants	Percent of total
Mexican	293,000	30.7	431,000	33.2	567,000	40.8
Cuban	71,000	7.4	249,000	19.2	278,000	20.0
Puerto Rican	480,000	50.2	222,000	17.1	41,000	3.0
Other Hispanic	112,000	11.7	397,000	30.6	503,000	36.2

Sources: Mexican, Cuban, Other Hispanic: Immigration and Naturalization Service annual reports 1950-1979, Table 9; Puerto Rican: Estimated from Puerto Rican census and vital statistics.

make up little of the flow. The U.S. became more ethnically and culturally diverse as the result of earlier shifts in the profile of immigrants and this can be expected to occur again with the increase in Hispanics. Legitimate questions remain about the costs and benefits of reorganizing society and how fast that should happen. More easily influenced by policymakers than fertility and mortality—the other two variables that shape a country's population growth and composition—immigration is likely to remain a much debated issue in the U.S. for some time to come.

Legal immigration diversity

Each of the four Hispanic groups has its own unique immigration history and, once arrived, has generally settled in different regions of the U.S., as we have seen. There are also differences in the amount that immigration has contributed to each group's growth since 1950—almost all for Cubans and "Other Hispanics," and very little since the 1960s for the Puerto Ricans.

Data on legal immigration for Mexicans, Cubans, and Other Hispanics are drawn from INS records. Puerto Ricans, who have unrestricted access to the U.S., do not appear in INS records. To estimate their net migration one must use a residual procedure involving two Puerto Rican census counts and registration of births and deaths for the decade they span. Drawing on these two sources, Table 11 shows immigration into the U.S. of each of the four groups for the three decades from 1950 to 1980.

During the 1950s, Puerto Ricans accounted for half of all Hispanic immigration, providing the U.S. with a net gain of nearly half a million. This movement, with one of every six Puerto Ricans moving to the U.S. during the decade, ranks as one of the most dramatic voluntary exoduses on record. It was driven by the promise of jobs—any jobs—as an escape from the island's stagnant agrarian economy, cheap plane fares, and the freedom of entry accorded Puerto Ricans as U.S. citizens.

A sharp rise in immigration in the last half of the 1950s boosted Mexican immigration to almost 300,000 for the decade. The number grew by about 140,000 in each of the next two decades, yielding a total for the 1970s of just under 570,000. Mexico ranked as the largest single contributor to U.S. legal immigration over this 20-year span and accounted for over 40 percent of all Hispanic immigration.

Cuban immigration also grew dramatically over the three decades. Although the INS statistics shown in Table 11 add to 527,000 Cuban immigrants for 1960-80, the actual number of Cuban arrivals was close to 640,000, with over 70 percent occurring during the 1960s. Such large numbers of Cubans could only enter the U.S. by assigning them special status as political refugees or "parolees." But the INS records such individuals' entries only when their status is adjusted to "immigrant."

Touched off by Castro's rise to power in 1959, Cuban legal immigration subsequently rose and fell in concert with shifts in both U.S. and Cuban government policies, as we have seen—surging in the first years after the revolution and in the late 1960s and early 1970s, ebbing after the 1962 missile crisis and following Castro's cutoff of emigration in 1973. The latest and largest influx of Cubans into the U.S. began when an April 1980 rush on the Peruvian embassy in Havana by a crowd demanding asylum drew a sudden response from Castro that whoever wanted to leave the island was welcome to go. By December 1980, 125,000 had arived in the U.S., transported in a flotilla of boats sent to collect them from the port of El Mariel. These refugees were set off from their predecessors not only by their numbers but also by their socioeconomic characteristics. Most stemmed from "urban working and lower class origins," as had Cubans arriving in the early 1970s, while the first waves of post-revolutionary refugees had been "displaced bourgeoisie"—well educated, middle and upper class professionals and businesspeople alienated by the new regime.[33]

One ramification of the timing of the Mariet boatlift, which began just after completion of the 1980 census, was to undermine the relevancy of census data on the Cuban population. Close to 15 percent of the 1981 U.S. Cuban population was not in residence at the time of the April 1, 1980, census.

Comparing the 1980 census count of Cubans (803,000) with the number estimated to have emigrated to the U.S. from 1959 up to the census date (670,000) indicates that some 80 percent of the 1980 population are first-generation immigrants. The Mariel arrivals would, of course, further increase this percentage.

The Other Hispanics are shown in Table 11 to have had the largest gain in immigration over the 30-year interval. From 112,000 and 12 percent of Hispanic immigration in the 1950s, they grew to 503,000 and 36 percent of the total in the 1970s, putting them into second place after Mexicans in their contribution to Hispanic immigration for the decade. For the 1975-79 period, they were actually in first place, as noted earlier. Of course, this total represents immigration from 16 separate nations. The largest contingents come from the Dominican Republic, Colombia, Argentina, and Ecuador, joined, in recent years, by growing numbers of escapees from the political turmoil in Nicaragua and El Salvador. This increase in Other Hispanic immigration partly reflects growing population pressures in the countries from which they come. Current population growth in these 16 countries averages over 2 percent a year—a rate at which a population doubles in just 35 years. This alone foretells for this group an ever-growing dominance in Hispanic legal immigration totals.

Paul Conklin

Cubans in Miami.

After holding first place during the 1950s, Puerto Rican net immigration dwindled to just 41,000 and 3 percent of the total in the 1970s. Why was this? With an island population of less than 2.4 milion in 1960 and fertility on the decline, it would have been impossible for Puerto

The Story of a Cuban in the U.S.

I am descended partly from Spaniards who migrated to Cuba and partly from freed black slaves. My mother's father was a laborer with little education. My grandfather on my father's side had his own business making salt from seawater. He had the equivalent of a bachelor's degree in accounting from a Cuban university and was once mayor of Guantanamo, where they lived.

My father also has a bachelor's degree in accounting from the University of Havana and my mother graduated from high school. I am the oldest of their two sons and was born in Cuba. My brother was born after we migrated to New York City.

My father moved to New York City for a while in 1946, dreaming of becoming a boxer, but this did not work out, and he returned to Cuba and worked for his father. My parents were married in 1948 and we migrated to New York City in 1954. The revolution had begun in Cuba but this was not the main reason my parents left.

At first my father worked in factories and drove a taxi but finally in 1967 he got a job as an accountant with a community action program that provided services for Hispanics. These programs that were started in the late 1960s and early 1970s provided an opening into the mainstream of American life for many immigrants like my father whose English was poor.

My grandfather's salt business was nationalized after Castro took over in Cuba in 1959 and my grandparents came to New York City in 1961. They were not allowed to take anything except the clothes they wore and lost everything—their business, savings, home, furniture, jewelry. My grandfather also spoke little English and worked as an elevator operator and did odd jobs for ten years until he retired and moved to Miami. He died last year.

My uncle who is a physician could not get a visa to leave Cuba until 1968. He also was not allowed to take anything out of Cuba when he left. He went to New York City at first and then to Kansas where he took a year of medical residency so he could become licensed in the U.S. Now he is licensed in Florida and practices in Miami.

I attended the City College of New York. I was married in my junior year and took some night courses after that, but never finished. My wife and I have a girl of eleven and a boy of nine. My wife works as a reservationist for a large airline. I began working in New York City in community action and drug abuse programs but there were not many drug abuse programs serving Hispanics in New York so I was transferred to Washington, D.C. in the mid-1970s.

My parents also moved to Washington shortly after that. My father started his own accounting business which has some of the latest computer equipment. My younger brother works for a trading company in the Washington, D.C., area.

Rico to continue to export half a million residents each decade. But other factors also played a role. For one, pressure on the home job market was relieved by the exodus of earlier emigrants. Economic opportunities may still have been brighter in the U.S. but not enough to warrant the wrench of leaving home. Deciding to stay was also made more feasible by increases in U.S. government welfare support, combined with remittances from family members who had ventured to the mainland.

Unique to Puerto Rican immigration, however, is the fact that the net migration figures mask a large movement of people back and forth from the island, which unrestricted entry to the U.S. permits. Puerto Ricans have been characterized as having "one foot on the mainland and one on the island." Detailed figures for the 1970s show a net flow back to Puerto Rico of people aged 35 and over and older children aged 5-19, but this was offset by a larger net influx into the U.S. of persons aged 20-29 and children under age five. This suggests that young adults are lured to the U.S. with their children by the prospect of better economic opportunities and later choose to return to the island.

Sex and age of legal immigrants

The characteristic ages and sex of 1950-80 immigrants, which helped shape the age-sex composition of the 1980 resident Hispanic population, also varied among the four groups. Women consistently outnumbered men among immigrants from Cuba and Other Hispanic countries, as has been true of immigrants to the U.S. generally since the 1930s. Fifty-seven percent of new arrivals among Other Hispanics during the 1950s were women—a high proportion which reflects the pattern of rural-to-urban migration in Latin America where women also outnumber men. By the 1970s this figure had declined somewhat to 54 percent.

Among Cuban immigrants, the proportion of women was 53 percent in the 1950s and 1960s, just before and after the 1959 Castro takeover, and rose to 55 percent in the 1970s. In this case the predominance of women came about because young men of conscription age were not allowed to emigrate. The sex ratio of Cuban immigrants in the 1980s will have changed with the addition of the Marielitos, 70 percent of whom were men.[34]

Among Mexican and Puerto Rican immigrants, by contrast, men have been more numerous. For Mexicans, the male share was 53 percent during the 1950s, followed by a decline to 50-51 percent in the next two decades. This pattern probably reflects job opportunities in the Southwest. Many legal immigrants in the 1950s may have been former *braceros* or their relatives who knew of job opportunities for men in the U.S.

Among Puerto Ricans, the proportion of men was 54 percent during the 1950s, 56 percent in the 1960s, and 73 percent in the 1970s. The 1970s figure must be viewed cautiously since it is based on such a small net immigration total. Even so, the increasing predominance of males is obvious. This could be because Puerto Ricans can come to the U.S. freely, without the hurdles that face all other Hispanic legal immigrants, and men are thus easily able to come temporarily to take a job without uprooting an entire family.

Two-thirds of immigrants arriving from Mexico and "Other Hispanic" countries from 1950 to 1980 were between the ages of 15 and 44. This is typical of most migrant streams, for this is the stage of life when one can expect to profit most from a move to a place promising better economic opportunities. As might be expected, such migrants bring with them a sizable number of young children.

Puerto Rican movement during the 1970s, as noted, stands out for its net influx of migrants aged 20-29 and net emigration at ages above 35. The pattern was similar, if less pronounced, in the earlier decades.

Cuban immigrants of the 1950s were mostly in the typical young adult ages but much older in the two decades after the revolution. Thirty-three percent in the 1960s and 45 percent in the 1970s were over age 44. Seventeen percent of the Cuban women who immigrated from 1960 to 1980 were 65 and over, much higher than the 7.1 percent of Cuban women this age counted in the U.S. in the 1980 census. Demographers Sergio Diaz and Lisandro Perez point out some reasons for the older, more female Cuban immigration before the Mariel boatlift:

> "The Cuban government generally prohibited the emigration of males eligible for military conscription. Also persons of working age had to spend time in agricultural labor before being allowed to leave the country. There were no such restrictions for the elderly, a dependent population the revolutionary government was not particularly eager to keep."[35]

Illegal immigration

Illegal immigration—hard to measure but thought to be on the increase—looms large in any assessment of the impact of recent Hispanic immigration to the U.S.

A recently arrived Guatemalan tells her story

My husband and I recently migrated to the U.S. from Guatemala. We have two sons, one eight years old and the other eleven months old.

My parents lived in a small town called La Libertad in Peten, a rural area of Guatemala. They both worked in the small grocery store and on the ranch which they owned. My father completed six years of school and my mother about three years.

There was no high school in La Libertad, so my parents worked and saved so they could send me, my sister, and my brother to high school in Guatemala City. This was almost like going away to college because we had to find a place to live and pay room and board. All three of us graduated from high school. I specialized in secretarial studies. My sister went on to college and became a teacher. My brother got a medical degree and is working on a master's degree in public health at Stanford University.

My husband studied law for about four years in Guatemala but never graduated. He had a good tourist business until the trouble with Nicaragua caused such a drop in business that he could no longer operate. It was then that he decided to come to this country.

We are both working full time and have someone who takes care of our children. My husband is a custodian for the public school system. I took extra training when I came here and also worked on my English. I have a job as a bilingual secretary. It has been difficult, but we work hard and we are happy.

Not all illegal immigrants are Hispanics, of course, but the majority probably are. Their motives are no different from those of legal immigrants; most come seeking jobs or to escape political and social turmoil at home. Unfortunately, these legitimate interests often conflict with the interests of current citizens.

Who are they?

Illegal or undocumented aliens are classified as persons crossing the border "without inspection" or with fraudulent documents, or overstaying a work or student visa. This definition rules out Puerto Ricans, with free access as U.S. citizens, and most Cubans, who have been accorded special refugee status because of the political overtones attached to their movements to the U.S. Thus the undocumented Hispanic population is made up almost entirely of Mexicans and Other Hispanics.

An estimated 50-60 percent of all illegal aliens are Mexicans,[36] stimulated by the closeness of the border, a long history of moving back and forth to fill the heavy labor needs of the Southwest's agriculture, and erratic U.S. policies. Mexicans were deported when jobs grew scarce during the 1930s and courted again with the *bracero* program as labor became short during World II. Though the *bracero* program was viewed as a way to stop illegal immigration, it actually served to step up the influx as word got round of jobs to be had across the border. By the 1950s the domestic labor supply was back up to full force and the INS set out to staunch the illegal flow with "Operation Wetback." (Many Mexicans waded clandestinely across the Rio Grande; hence, "wetback.") At the same time, however, U.S. employers were still allowed to hire illegal entrants who managed to get through. Further illegal Mexican immigration was practically guaranteed by the ending of the *bracero* program in 1964 and institution of the 120,000 hemispheric ceiling on immigration in 1968 and 20,000 per-country limit in 1977. Currently, with unemployment again high in the U.S., there is renewed pressure for control of the influx from Mexico, just as pressure mounts on the other side to escape Mexico's deteriorating economy and devalued peso.

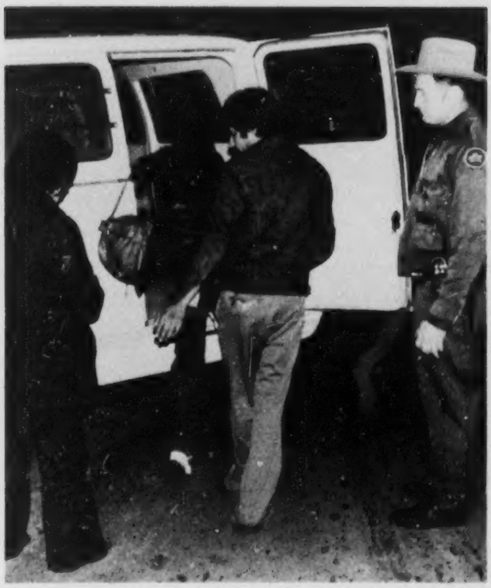
Much of the illegal movement from

Mexico into the U.S. is offset by return migration. Workers came north, find jobs, and eventually return to home and family. The Southwest has been the traditional destination for Mexican migrants but many now make their way as far north as Chicago and Detroit. The farther the search for a job and the more urban the job is, the less likely it is that an undocumented Mexican will move back and forth across the border.

A substantial portion of other illegal immigrants are from such countries as Guatemala, El Salvador, the Dominican Republic, Colombia, Ecuador and Peru. Many of these are now also crossing the Mexican border. Undocumented "Other Hispanics," however, more typically enter with a temporary work visa and stay past the expiration date, sticking to large cities to avoid detection. Many Dominicans enter through Puerto Rico. They obtain travel passes to the island and are virtually unidentifiable among Puerto Ricans in legal transit to the U.S. "Other Hispanic" illegal aliens are more likely than Mexicans to remain in the U.S. once here.

How many?

In the early 1970s, estimates of the number of illegal aliens living in the U.S. ranged from 2 to 12 million. Recently a consensus has grown for an estimate of 3.5 to 6 million, as given in a 1981 report prepared by Census Bureau demographer Jacob Siegel and colleagues for the Select Commission on Immigration and Refugee Policy.[37] The latest light comes from a Census Bureau study, unveiled in April 1983, which estimated that just over 2 million undocumented persons were included in the 1980 total census count of 226.5 million.[38] This does not reveal how many undocumented residents were missed by the census, but it is difficult to imagine that it was even as many as the number counted because the Census Bureau made a concerted effort to enumerate the undocumented population and to reach all segments of the Hispanic community.


Don Dornan/Immigration and Naturalization Service

Undocumented immigrants apprehended at the Mexican border.

Of the 2 million, 1.3 million, or 64 percent, were estimated to be from Latin America. Mexicans alone numbered 931,000. All other Latin American countries with legal immigration to the U.S. also turn up in the estimate of illegal aliens enumerated in the 1980 census but none made a substantial contribution.

That the number of illegal aliens arriving each year may be increasing is suggested by figures on deportable aliens apprehended by the INS. This number grew from 420,000 in 1971 to over a million each year in 1977 through 1979, followed by a slight drop to 976,000 in 1981 and 970,000 in 1982.[39] Most apprehensions occur at the Mexico border where the INS concentrates such efforts. From January through April 1983, there were 377,000 apprehensions at the border, a 46 percent increase over the same period in 1982.[40] Apprehensions, however, are not an accurate count of the actual number of illegal aliens entering each year since the same person may be apprehended more than once in a year. Nor do they record movements out of the country. Estimates of the annual *net* increase in the total undocumented population of the U.S. range from below 100,000 up to 500,000.[41]

Issues and new legislation

Although the U.S. has generally approved of immigration as contributing to the country's development, this position may be eroding, according to immigration expert Michael Teitelbaum:

> "There is a clear risk that growing opposition to immigration and refugee flows that are widely perceived to be excessively large, insufficiently plural, and heavily illegal may overwhelm existing domestic support for a truly humane and generous set of policies."[42]

Particularly sensitive at this time of high unemployment is the claim that illegal aliens take jobs from legal residents, including Hispanics. In fact, many of these jobs are paid so poorly that U.S. workers would not apply. Illegal workers may even promote domestic employment in the sense that they keep alive some manual labor that otherwise might be automated. Some job displacement undoubtedly occurs, but a more important impact on U.S. employment is that illegal workers tend to hold down wages and impede improvements in working conditions. Fearful of deportation, they are characteristically docile and frequently exploited. Some observers believe this lack of access to the rights and protection of the U.S. legal process is the most damaging aspect of the illegal population. Immigration expert Charles Keely puts it: "In terms of its effect on U.S. society, what is likely to prove most disruptive is not the presence of the migrants but their status as illegal aliens."[43] How better to undermine the fundamental concepts of personal rights, equality of opportunity, and tolerance of cultural diversity than to condone the existence of an illegal underclass? Some direction on this issue was provided by a landmark June 1982 Supreme Court ruling which struck down a Texas law that withheld state funds for education of children of illegal aliens. In their decision the justices declared for the first time that illegal aliens are included among persons guaranteed "equal protection of the laws" under the 14th Amendment of the Constitution.

Another concern is the use which illegal aliens make of public services paid for by U.S. taxpayers—welfare payments, unemployment insurance, medical services, public schools. It is known that illegals do use these services to some extent, particularly medical services, but nationwide they may pay more in federal, state, and local taxes than the cost of benefits received. Even if this is true, however, the cost of providing services falls unevenly on such local jurisdictions as Los Angeles County, which had an estimated 300,000-600,000 illegal residents in June 1982.[44]

After years of study and debate by several presidential task forces, congressional commissions, and public-interest groups arguing both for and against reform, a comprehensive overhaul of U.S. immigration law appeared to be imminent in June 1983. An immigration reform bill introduced to Congress by Senator Alan Simpson, Republican of Wyoming, and Representative Romano Mazzoli, Democrat of Kentucky, was passed by the Senate but not the House of Representatives in 1982. Reintroduced in 1983, it cleared the Senate in May by a vote of 76 to 18. Though still highly controversial, the bill was expected to clear the House by late summer 1983 and muster enough support in Congress to override a possible veto by President Reagan, concerned about the costs of providing services to illegal aliens granted amnesty under the bill.

The general provisions of the proposed legislation (as passed by the Senate in May 1983) are:

- an annual ceiling of 425,000 on legal immigrants, including immediate relatives of U.S. citizens not now subject to numerical restrictions, but not including refugees, for which quotas will continue to be set annually by the Administration and Congress (As of late June, the

House bill omitted the proposed new 425,000 ceiling on immigrants);

- continuation of the 20,000 per-country annual limit on immigrant visas, except for Mexico and Canada, which will receive 40,000 each;
- penalties starting at $1,000 for employers of at least four persons who knowingly hire illegal aliens, and authorization to develop a national identification system to verify legal residency;
- amnesty (legal status) for illegal aliens who entered the U.S. before January 1, 1980 (in the Senate bill) or January 1, 1982 (in the House bill); and
- judicial review for persons ordered to be deported, excluded, or refused asylum under the terms of the legislation.

Education

Younger Hispanic adults spend more time in school than their elders did, as is now true for all racial and ethnic groups in the U.S. But Hispanics still lag behind blacks and far behind whites as a whole in average educational attainment—the key to economic and occupational progress. Some Hispanic groups are more educated than others, however, which reflects differences in immigration histories more than ethnic attitudes toward education.

Cubans, still dominated by the middle-class and professional people who were the first to flee the Castro regime, tend to be better educated than other Hispanics, like the Cuban whose story appears on page 24. So, too, are recent legal immigrants from Central and South America, like the Guatemalan woman who tells her story on page 26. The Mexican-American family described on page 30, whose roots in the U.S. go far back in history, typically progressed from little education among earlier generations to several college graduates and advanced degree-holders among the latest generations. However, educational attainment for Mexican Americans as a whole reflects the much lesser schooling of the majority who are recent legal and illegal immigrants. Average educational attainment is also low for Puerto Ricans in the U.S., partly stemming from the constant flow back and forth between the island and the mainland. Public education in Puerto Rico suffers from scant funding—just $694 per pupil in 1977—below the $900 of Arkansas which ranked lowest of U.S. states on this score.[45] Children transferred to schools in the U.S. must usually drop to grades lower than the average for their age and often have their schooling disrupted by moves back to the island; some 20,000 pupils a year were transferred back and forth between Puerto Rico and New York City alone during the 1970s. Frustration with the public school system in Puerto Rico prompts many middle- and upper-class professionals to place their children in private schools, like the physician's daughter now living in the U.S. who tells her story on page 31.

School enrollment progress

Hispanics' lesser involvement in education begins early. In 1981, only 25 percent of Spanish-origin three- and four-year-olds were enrolled in school compared to some 36 percent of both blacks and whites as a whole.[46] These early education programs include public and private nursery schools and Head Start, which are particularly important for children from disadvantaged backgrounds.

Between ages 5 and 15, nearly all Hispanics along with blacks and whites attend school, but the gap widens again from age 16 when students are able to leave school legally in most states. In 1981, school enrollment among Hispanics was 83 percent for 16- and 17-year-olds compared to some 91 percent for blacks and whites, and only 38 percent at ages 18 and 19, in contrast to roughly one-half for blacks and whites. Some 36 percent of Hispanics aged 18 and 19 were not enrolled in school and were also not high school graduates, i.e., they were dropouts. This was more than double the figure for whites of that age (16 percent) and almost double that of blacks (19 percent).

A Mexican American or "Hispano" tells his story

My family has been in this country so long that no one knows when our first ancestors came. We only know about our family as far back as my grandparents.

My grandparents on my father's side were both born and raised in the Espanola Valley along the banks of the Rio Grande in New Mexico. In 1891 they homesteaded 160 acres close to what is now Los Alamos. My mother's parents came from a little town in the mountains beyond the valley where most of the land was controlled by four Indian pueblos. My grandparents on both sides spoke only Spanish and had very little education. They worked very hard farming and ranching.

My father was born in 1907 in Espanola. Both he and my mother finished the fourth or fifth grade and both spoke Spanish and English. My father still reads the newspaper every day. They raised 12 children.

My father first worked in the coal mines in Utah and then did seasonal work and odd jobs for the railroad. When the U.S. Army started building barracks in Colorado, he got a job with them and learned carpentry. As a result, he was able to get a job as a carpenter when Los Alamos was opened during World War II.

I started working when I was ten years old, selling seeds door to door from things that I grew myself. I also read a lot—mostly comic books. When I was 12, I got a job at a local department store carrying out ashes for 5¢ a day. At 13, I was sweeping and stocking shelves in the store. I worked for the store owner until I graduated from college.

I went to a public high school run by nuns. I always had good teachers who encouraged me. I had an especially good math teacher. I wanted to go to Highlands University to study to become a teacher, but my boss said he would pay my way for the first two years if I would go to the New Mexico Military Institute which he thought was a better school because it focused on math and science. So I went there. I won a scholarship in my second year and ended up graduating second in my class.

Then I went into the Army as a commissioned officer, first talking my wife into marrying me and leaving the University of New Mexico where she was studying home economics. While in the Army, I earned a master's degree in engineering from Purdue University and another master's degree in organizational development from George Washington University. After 22 years, I retired as a full colonel.

All five of our children graduated from college. The oldest son is a commercial artist with a degree from Northern Arizona University. Our daughter graduated in music education from the University of New Mexico. Another son has a degree in international business from the University of Colorado and is about to get his law degree from Harvard. The third son has a mechanical engineering degree from MIT. The fourth son has a master's degree in mechanical engineering from MIT.

As Hispanics, my family and I experienced some discrimination but we also had a lot of people who helped us. My wife was frowned upon when we were stationed in the Southwest and she was running around with five small children who were obviously Hispanic. We also had some trouble with a school system in which our children were enrolled. The little discrimination we did experience seemed so unnecessary and counterproductive.

Hispanics' high dropout rates are partly due to the fact that many are enrolled in grades below the average for their age, where they can be bored, feel out of place, and be labeled slow learners. In 1976, about 9 percent of Mexican-American and Puerto Rican 8-to-13 years-olds were at least two years behind their "expected" grade in school, compared to 5 percent of white non-Hispanics; at ages 14-20, the figures were 25 percent for Hispanics versus just

A Puerto Rican tells her story

I was born in Puerto Rico and spent most of my growing-up years there. Both my grandfather and my father were physicians. My grandfather was one of the first Puerto Ricans to get a medical degree from a university in Maryland. My father got his medical degree in Spain. My father joined the U.S. Army as a general surgeon, later specializing in orthopedic and hand surgery.

I was first exposed to American teenagers when our family moved to Hartford, Connecticut, for eight months while my father studied at Children's Hospital. I attended eighth grade at a Catholic school and my two younger brothers were also at a Catholic school. I remember being impressed by the freedom the teenagers have in this country and how they talk so outspokenly to adults. Following completion of my father's studies, we returned to Puerto Rico where he resumed his private practice.

I graduated from the same all-girl high school from which my mother graduated. My parents decided I should go abroad to college so I went to George Washington University where I earned a bachelor's degree in international relations, concentrating in Latin American studies. However, I never worked in this area. Instead, I began working in human services, mostly because I speak Spanish.

I never thought of myself as a minority and still don't. Also, I never felt discriminated against. This is probably because I have light-colored skin.

9 percent for non-Hispanic whites.[47] In New England in the early 1970s, 50 percent of Hispanics were at least two grades behind and only 12 percent were in their "expected" grade.[48] Delay is particularly serious for transfer students from Puerto Rico; in Boston, for example, students aged 17-19 who were in senior high school in Puerto Rico are often placed in the sixth or seventh grade.

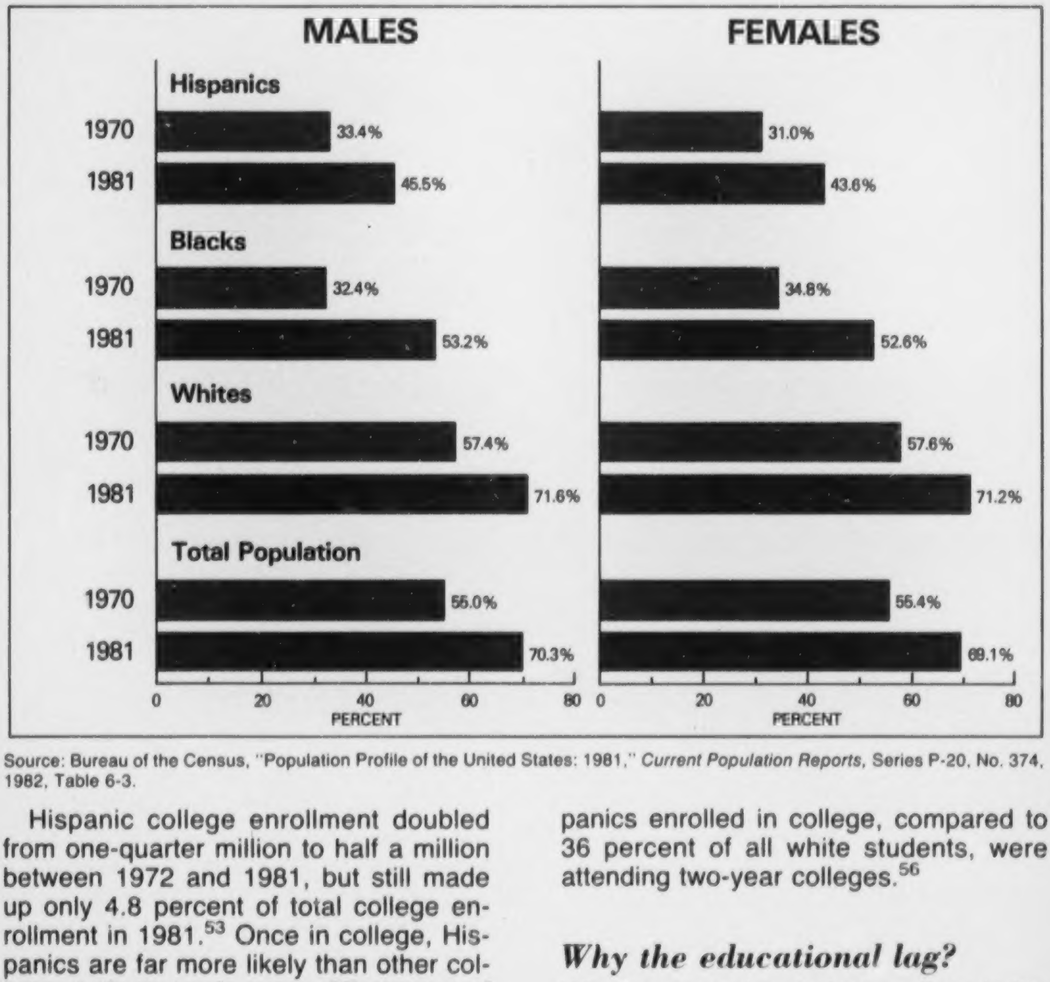
Not surprisingly, Hispanics are much less likely to graduate from high school than other groups, and the percentage of Hispanic high school graduates who go on to college dropped from 35.4 percent to 29.9 percent between 1975 and 1980.[49]

High school and college completion

Hispanics aged 25 and over are increasingly likely to be at least high school graduates, like blacks and all white adults, but the gap remains wide, as seen in Figure 4 (page 32). In 1981, 46 percent of Hispanic males, for example, had completed four years of high school or more, up from 33 percent in 1970, but the figure for black males was 53 percent and for white males as a whole, 72 percent. However, younger Hispanics are catching up. Among those aged 25 to 34 in 1981, 57 percent had completed high school. Mexican Americans and Puerto Rican males have made some gains in high school completion since 1960, according to a study by the U.S. Commission on Civil Rights, but still trailed behind other Hispanic groups as well as blacks and all whites in 1976.[50] There is another gap in high school completion between metropolitan and nonmetropolitan Hispanics; in 1979, only 36 percent of Hispanic adult men living in nonmetropolitan areas had finished high school, compared to 44 percent of Hispanic men in metropolitan areas.[51]

Scholastic Aptitude Test scores reveal the poorer preparation of Hispanic high school graduates who do go on to college. Among entering freshmen in 1979, the average on the verbal part of the test was 356 (out of a possible 800) for Puerto Ricans and 372 for Mexican Americans compared to 442 for non-Hispanic whites, and 387 for Puerto Ricans and 413 for Mexican Americans in math versus 482 for non-Hispanic whites.[52]

Figure 4. Hispanics, Blacks, Whites, and Total Population Aged 25 and Over Who Completed Four Years of High School or More: 1970 and 1981



Source: Bureau of the Census, "Population Profile of the United States: 1981," *Current Population Reports*, Series P-20, No. 374, 1982, Table 6-3.

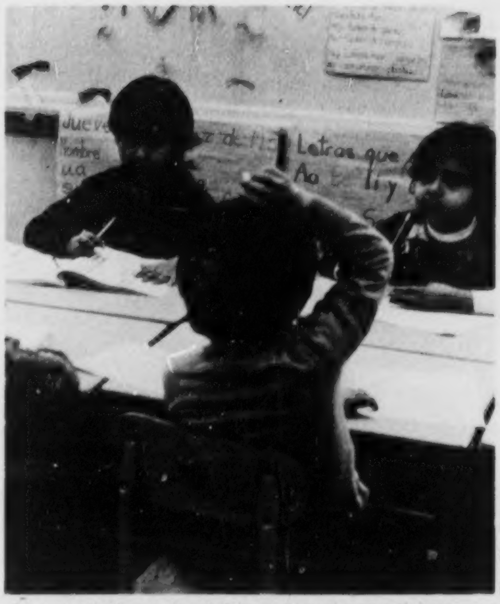
Hispanic college enrollment doubled from one-quarter million to half a million between 1972 and 1981, but still made up only 4.8 percent of total college enrollment in 1981.[53] Once in college, Hispanics are far more likely than other college students to drop out; 57 percent of Hispanic males and 54 percent of Hispanic females fail to graduate, compared to 34 percent of all white males and females.[4] Figures in 1981 for adults 25 years and over who had completed at least four years of college were only 10 percent for males and 6 percent for females among Hispanics, compared to 22 percent for all white males and 14 percent for white females, and 8 percent for both black males and females.[55] Part of the reason for this disparity is that Hispanic students primarily attend two-year colleges. In 1980, 54 percent of Hispanics enrolled in college, compared to 36 percent of all white students, were attending two-year colleges.[56]

Why the educational lag?

Whether or not he or she was born in the U.S. makes a difference in a Hispanic's educational attainment. Demographers A. J. Jaffe, Ruth Cullen and Thomas Boswell found from 1970 census data that Hispanics born in the U.S. generally attend school longer than their foreign-born parents.[57] Another research team found even greater educational progress between second- and third-generation Mexican Americans,[58] as illustrated in the story on page 30. Thus, like other immigrant groups before them, U.S. Hispanics' educational attainment should improve in time. Meanwhile, there are barriers, as Jaffe and his colleagues point out. "Cultural reinforcement" is one. A constant influx of new arrivals keeps Latin cultural values and the Spanish language alive among Mexican Americans in the Southwest, Puerto Ricans in the Northeast, and even Cubans in Florida, washed by the wave of Marielitos in 1980. A Mexican-American professional in California described how "macho" values can hinder education: "If you drop out [to father a child] or to buy a car, you're a big man. But when I came home with my Ph.D., my friends acted like they didn't know me."[59] Early pregnancy and marriage, poverty which forces teenagers prematurely into the labor force, and the problems of overcrowded, poorly equipped big-city schools which most Hispanics attend also boost dropout rates and discourage education. And like blacks and unlike earlier immigrant groups, Hispanics in the U.S. and in its schools have suffered from the discrimination accorded dark-skinned people.

Lack of English clearly retards Hispanics' general educational progress. In 1978, 26 percent of Hispanics in public elementary and secondary schools spoke little or no English.[60] On the other hand, use of Spanish is not necessarily a barrier to education, as proven by Cubans. Though educational levels are generally higher for those who grew up speaking English at home, Cubans, who outpace other Hispanics in high school achievement tests and college entrance, are also most likely to speak Spanish at home. This suggests that factors like more parental education and higher family income determine educational progress more than use of Spanish.[61]

Use of Spanish, however, is an issue in the current controversy over federal funding of bilingual education. Federally funded bilingual programs, in which a student is taught academic subjects in his native language until he can master English, began in 1968 in order to speed school progress for pupils who enter school speaking little or no English. They still cover less than half of Hispanic students in that category, funding was cut from $167 million in fiscal year 1981 to $138 million in 1982, and research has not yet shown that the programs have clearly achieved their purpose.[62] Critics claim that they slow down students' learning of English and foster the use of Spanish which hinders Hispanics' assimilation into the mainstream of U.S. society and could create an "Hispanic Quebec" in the U.S. A widely publicized report of the Twentieth Century Fund, issued in May 1983, recommended that federal bilingual funds be spent instead on teaching English to non-English-speaking children, and asserted: "Although this nation has become more aware of the value of ethnic identities, anyone living in the U.S. who is unable to speak English cannot fully participate in our society."[63]


Pat Pardinas

Almost all Hispanic children attend school between ages 5 and 15 but dropout rates are high after that.

Employment and Occupation

From poor education to poor economic and professional standing is but a short step. Though Hispanics' economic status has improved in recent decades, they remain clustered in low-paying blue-collar and semi-skilled jobs in fields like construction and manufacturing that suffer high seasonal or cyclical unemployment and thus earn far less and are more likely to be unemployed and live in poverty than the white population as a whole. Again, however, Cubans and Central and South Americans fare better than Mexican Americans and Puerto Ricans, especially women. For example, the Guatemalan who tells her story on page 26 graduated from high school and worked as a secretary before migrating to the U.S. where she has taken additional training. Now she works as a bilingual secretary.

Economist Dennis Roth of the Congressional Research Service points out that Hispanic women aged 20 and over were almost as likely as all adult women to be working or seeking work in 1980 (48.8 percent compared to 51.3 percent) and the labor force participation rate for Hispanic men (85.2 percent) was *higher* than the rate for all adult men (79.4 percent).[64] But this comparison is misleading. As seen in Table 12, within specific age groups, Hispanic women's rates were generally 7.5 to 12 percentage points lower than those of all adult women and Hispanic men had rates slightly less than those of the total male population, except at ages 20-24 and 55 and over. The overall rates for Hispanics were pushed up because Hispanics are generally younger than the average for the total population, and younger adults are more likely to be in the labor force.

Between 1973 and 1981, the number of Hispanic women in the work force surged by 82 percent, outpacing the increase among all women, Roth points out. This was mainly due to an increase in the number of Hispanic women of working age because of continued immigration. But, except for Puerto Ricans, Hispanic women's labor force participation rate also went up nearly 9 percentage points—slightly more than that of all women. Meanwhile, the rate for Puerto Rican men dropped more than 8 percentage points, while remaining about the same for Hispanic men as a whole. Roth attributes the drop in rates for Puerto Rican men and women to the declining economy in New York City. In 1979, one-half of all mainland Puerto Ricans of working age lived in New York where total employment had dropped by 13 percent between 1969 and 1977. By 1982, only 51 percent of adult Puerto Ricans in the U.S. were in the labor force, compared to some 62 percent of Cubans and Mexican Americans and similar proportions of blacks and all whites.[65] This was primarily due to the low 37 percent of Puerto Rican women who were working or looking for work; among all other women, including Mexican Americans and Cubans, the figure was about 50 percent.

Table 12. Labor Force Participation Rates of Hispanics and All U.S. Adults, by Sex: 1980

	Percent in labor force			
Age group	All men	Hispanic men	All women	Hispanic women
Total, 20 and over	79.4	85.2	51.3	48.8
20-24	86.0	88.2	69.9	57.1
25-34	95.3	93.5	65.4	53.9
35-44	95.5	94.1	65.5	56.0
45-54	91.2	91.0	59.9	52.0
55-64	72.3	72.5	41.5	32.9
65 and over	19.1	19.4	8.1	4.9

Source: Dennis M. Roth, "Hispanics in the U.S. Labor Force: A Brief Review," in Congressional Research Service, *The Hispanic Population of the United States: An Overview*, report prepared for the Subcommittee on Census and Population of the House Committee on Post Office and Civil Service (Washington, D.C.: Government Printing Office, 1983) Table 1, p. 60.

In an earlier review of Hispanics' work experience, Bureau of Labor Statistics economist Morris Newman suggests that Puerto Rican women's low labor force participation rate may also be a lingering cultural trait—women in Puerto Rico are much less likely to work outside the home than women in the U.S. But this is true of all Latin nations, and yet Mexican women once in the U.S. join the work force in proportions equal to that of all other U.S. women, although they are no more educated and have more children than Puerto Rican women, on average.[66]

Unemployment and underemployment

Hispanics' jobless rate is typically 40 to 50 percent higher than the overall unemployment rate, though not so high as that of blacks, which is usually double the national rate. In the last quarter of 1982, for example, when unemployment rates climbed to the highest levels since the depression of the 1930s, 15.2 percent of Hispanic workers and 20.4 percent of black workers over age 20 were out of work, while the overall unemployment rate for adults was 10.7 percent.[67]

As might be expected, Puerto Ricans have the highest unemployment rate among Hispanics and Cubans the lowest. Roth credits Cubans' lower rate to their better education and older age—60 percent of Cuban workers are over 35 compared to 36 percent of Puerto Ricans—and joblessness is usually lower among more mature, stable, experienced older workers.

A study by the U.S. Commission on Civil Rights of minorities' work experience from 1971 to 1980 shows that Hispanic men and women—along with blacks and non-Hispanic white women—are more likely to be underemployed than "majority" non-Hispanic white men, as well as having higher unemployment rates.[68] Both Hispanic men and women are more likely than "majority" males to have to accept parttime work when they would rather work full time. Hispanic men are also more likely to be employed on and off, receive poverty wages, and be overeducated for their jobs, while more Hispanic women than any other minority group are paid inequitably.

Occupation

In 1981, as in earlier years, Hispanic workers were more concentrated in lower paid, lesser skilled occupations than the overall work force. More than 75 percent of employed Mexican-American, Puerto Rican, and Cuban women were clerical workers, machine operators or "nontransport operatives," or service workers—three of the lowest paid occupations—compared to less than two-thirds of all women workers (see Table 13, page 36). Although the large percentage of Hispanic women employed in clerical positions is similar to that of all working women, their heavy concentration in operatives jobs—dressmakers, assemblers, packers, graders, and the like—is striking. Nearly 30 percent of Cuban women, about one-quarter of Puerto Rican women, and more than one-fifth of Mexican-American women worked at these jobs in 1981, compared to one-tenth of all women. Interestingly, Puerto Rican and Cuban women were less likely than women in general to work in services—as cleaners, housekeepers, and restaurant helpers, etc.

Among men, Cubans were nearly as likely as all men to be employed in professional and technical jobs or as managers and administrators—27 compared to 31 percent. The percentages for Mexican Americans (12.0) and Puerto Ricans (15.4) in these two highest paid fields were less than half or barely half the Cuban rate, probably due mostly to their relative youthfulness and low educational attainment. Puerto Rican men were most likely to work in nontransport operatives jobs (21 percent), with large proportions also employed as service workers and craft workers. Among Mexican-American and Cuban men, craft jobs were most prevalent, with services and operatives jobs also employing many individuals. Mexican-Americans are often stereotyped as farmworkers but, in fact, only 8 percent of employed Mexican-American men were recorded as farmworkers in 1981. However, this was double the 4 percent for all male workers in the U.S. Probably, also, the actual number of Mexican-American farmworkers is understated in the Cen-

Table 13. Occupations of Hispanic and All Workers, by Sex: 1981

(Numbers in percent of total workers, by sex)

	All workers		Total Hispanics		Mexican American		Puerto Rican		Cuban	
Occupation	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Professional and technical	15.9	17.0	7.7	8.8	5.7	8.0	8.5	11.6	12.9	9.9
Managers, Administrators	14.6	7.4	7.8	4.7	6.3	4.3	6.9	6.1	14.5	5.5
Sales	6.1	6.8	3.1	5.1	2.6	5.2	2.6	3.0	6.2	4.9
Clerical	6.3	34.7	6.4	31.9	5.0	32.4	13.1	36.4	9.4	31.9
Craft and kindred workers	20.7	1.9	20.1	2.4	20.9	2.5	15.4	2.5	20.7	2.2
Operatives, except transport	11.1	9.7	18.9	22.0	20.2	21.6	20.6	25.8	12.5	29.7
Transport equipment operatives	5.5	0.7	6.6	0.4	6.8	0.5	6.2	0.5	6.6	—
Nonfarm laborers	7.1	1.3	10.9	1.6	12.7	2.2	8.5	0.5	7.4	1.1
Service workers	8.9	19.4	13.3	21.4	12.2	21.1	17.6	13.1	9.4	14.8
Farm workers	3.9	1.1	5.2	1.6	7.5	2.5	0.3	0.5	0.4	—

Source: Roth, "Hispanics in the U.S. Labor Force" (see Table 12), Tables 5 and 6.

sus Bureau's Current Population Survey which collects these data; illegal immigrants, many of whom work in the fields, probably avoid interviews and migrant farmworkers are hard to locate.[69]

Though Hispanics remain underrepresented in the more skilled, higher paying occupations, their occupational status has improved since 1973—the earliest year for which suitable data are available—though more for women than men. Between 1973 and 1981, the proportion of Hispanic men employed as professionals, technicians, managers, and craft workers (which includes often well-paid jobs as construction workers and mechanics) rose slightly from 32 percent to 36 percent and the percentage of machine operators and farmworkers declined. For women there was a similar but more marked shift, plus an increase in clerical workers.

Hispanics have been sharing these shifts with all U.S. workers as lower skilled blue-collar jobs lose out to automation and white-collar office jobs increase. However, Roth notes that "generally speaking, Hispanics improved their labor market status relative to the improvement made by all workers," and observes: "It does appear that Hispanics will be able to further improve their occupational status in the U.S. if past trends continue."[70] Marked improvement, however, will require a gain in Hispanics' educational attainment rapid enough both to narrow the gap with increasingly highly educated white non-Hispanics and to meet the demands of the high-technology age.

Income and Poverty

If Hispanic workers improved their occupational status relative to all workers in the U.S. during the 1970s, this gain has not yet shown up in family income statistics. In 1972, the median Hispanic family income was 71 percent of the median for white families, as seen in Table 14, which measures Hispanic-white differentials in median family income since 1972 in constant 1981 dollars. In 1981, the median

Table 14. Median Income of Hispanic, Black, and White Families: 1972-1981

(in constant 1981 dollars)

Year	Median family income			Hispanic family income as percent of white income
	Hispanic	Black	White	
1972	17,790	14,922	25,107	71
1973	17,836	14,877	25,777	69
1974	17,594	14,765	24,728	71
1975	16,140	14,835	24,110	67
1976	16,390	14,766	24,823	66
1977	17,141	14,352	25,124	68
1978	17,518	15,166	25,606	68
1979	18,255	14,590	25,689	71
1980	16,242	13,989	24,176	67
1981	16,401	13,266	23,517	70

Source: Bureau of the Census, "Money Income and Poverty Status of Families and Persons in the United State: 1981 (Advance Data from the March 1982 Current Population Survey)," *Current Population Reports*, Series P-60, No. 134, July 1982, Table 3.

for Hispanic families ($16,401) was still just 70 percent of the median for white families as a whole ($23,517) after two years of recession had reduced real incomes for all families. Hispanics fare better than blacks, however, whose median family income in 1981 ($13,266) was just 56 percent of the median for white families, down from 59 percent in 1972. Like blacks, Hispanics' family income must stretch further than that of white families for family sizes are generally larger. Hispanics' relative youthfulness also depresses family income statistics—younger householders, in general, earn less than older ones.

Hispanics do better when both husband and wife work. In 1981, the median family income for such families was $23,641, or 80 percent of the median of $29,713 of all married-couple white families with the wife in the paid labor force.[71] The biggest difference in Hispanic-white family income levels comes in female-headed families. In 1981, 23 percent of Hispanic families were headed by a female alone—double the 12 percent among all white families—and their median income ($7,586) was just 60 percent of the median income of $12,508 of female-headed families among all whites.

Cubans, as might be expected, have the highest incomes of all Hispanic groups. In 1979, their median family income was $17,538, 86 percent of the white median of $20,502. This was close to double the Puerto Rican median of $9,855, which was the lowest among Hispanic families and well below the black family median of $11,644.[72] Mexican-American and Central and South American families had intermediate and similar median incomes—$15,171 and $15,470, respectively.

Poverty

In 1981, close to 800,000 Hispanic families, 24 percent of all Hispanic families in the U.S., were classified as "poor" by the Census Bureau, compared to 8.8 percent of all white families (see Table 15. The Census Bureau's poverty threshold varies by family size and age of the "householder" and is adjusted annually for inflation. It is based only on money income and does not take account of the benefits received by many low-income persons such as food stamps, Medicaid and Medicare, and housing aid. In 1981, the average poverty threshold for a family of four was $9,287). On this score, too,

Table 15. Poverty Rate of Hispanic, Black, and White Families: 1973-1981

Year	Percent of families below poverty level			Ratio of Hispanic to white poverty rate
	Hispanic	Black	White	
1973	19.8	28.1	6.6	3.0
1974	21.2	26.9	6.8	3.1
1975	25.1	27.1	7.7	3.3
1976	23.1	27.9	7.1	3.3
1977	21.4	28.2	7.0	3.1
1978	20.4	27.5	6.9	3.0
1979	20.3	27.8	6.9	2.9
1980	23.2	28.9	8.0	2.9
1981	24.0	30.8	8.8	2.7

Source: Bureau of the Census, "Money Income and Poverty Status: 1981" (see Table 14), Table 15.

Hispanics do better than blacks; nearly 31 percent of black families fell below the poverty threshold in 1981. Also, the rise in the poverty rate was a little less for Hispanics than for other families from 1979 to 1981 as the recession deepened and unemployment rose. However, Hispanic families were still 2.7 times as likely as all white families to be living in poverty in 1981, only marginally improved from the differential in 1973 (3.0) when poverty statistics for the Hispanic population were first calculated.

Thus the statistics for the past decade show Hispanics as a group still trailing well behind the general U.S. population on all measures of social and economic well-being. But a decade is hardly time enough to measure genuine progress. The higher educational attainment of younger Hispanics holds out hope that more Hispanics in general, and not just Cubans, will be joining the higher paid, white-collar work force in the future. And as they do, income levels should increase and unemployment rates fall, along with poverty rates. Even with their present income lag behind the general U.S. population, Antonio Guernica and Irene Kasperuk note in *Reaching the Hispanic Market Effectively* that "Hispanics in the United States are the wealthiest Hispanics in the world. The opportunity for economic improvement is the primary reason why legal and illegal Hispanic immigration to the United States continues unabated."[73]

Hispanics in America's Future

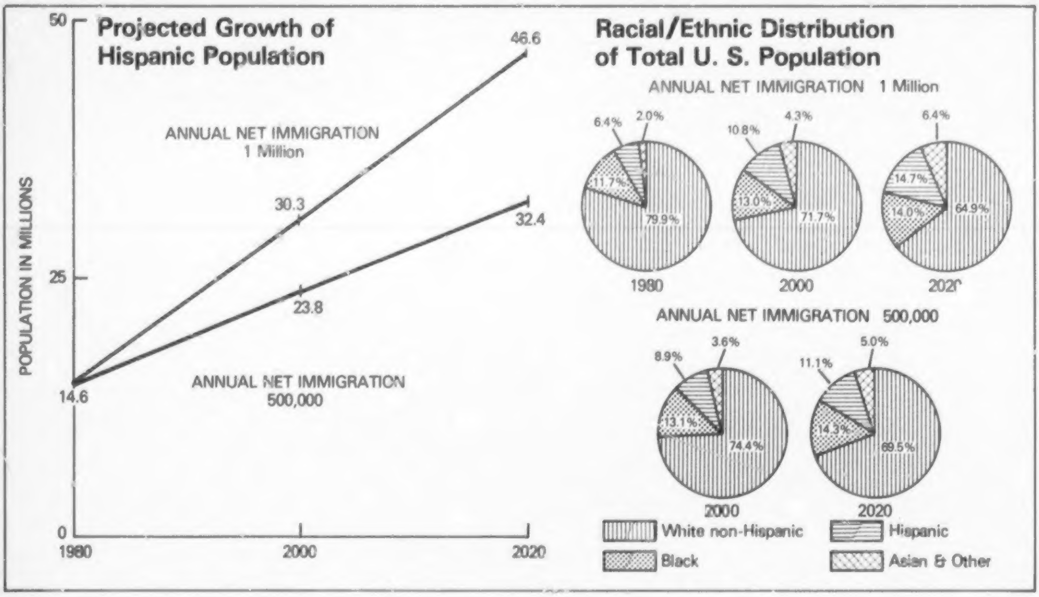
"The one demographic trend above all others that will mold the future of the Hispanic community through the 1980s and beyond is its numerical growth," Guernica and Kasperuk also assert.

The table at the bottom of Figure 5 presents two sets of projections from 1980 to 2000 and 2020 for the total U.S. population and the four main racial and ethnic groups—white non-Hispanics, blacks, Hispanics, and Asians and Others. The chart at the top shows Hispanic population growth based on these projections. The projections are *not* predictions of U.S. population growth; rather, they present population size as it might be in 2000 and 2020, given reasonable assumptions about our fertility, mortality, and immigration experience in this 40-year period.

The first set of projections assumes that annual net immigration to the U.S. will average 500,000 a year. This is below the net immigration average of 600,000 per year in 1979-81 when refugees from Southeast Asia and the sudden influx of Cubans and Haitians in 1980 inflated the number admitted legally to the U.S. But it is about what the average might be if the Simpson-Mazzoli bill were passed with a 425,000 per-year cap on annual immigrants and was rigorously implemented, and allowance is made for refugees. The assumption of 1 million net immigration per year in the second set of projections may appeal to those who wish to add net illegal immigration of at least 500,000 a year—the upper limit of recent net illegal immigration estimates (see page 28). Both sets of projections assume that the fertility of all racial/ethnic groups will converge in 2030 at the current national average of 1.8 children per woman; for Hispanics, the starting point (1980) was set at about 2.6 children per woman.

With net immigration at 500,000 per year, the Hispanic population is projected to grow to about 32 million and 11 percent of the total U.S. population in 2020. With net immigration at 1 million a year, Hispanics could number some 47 million and nearly 15 percent of the total in 2020, overtaking blacks as the country's largest minority. If all immigration had ceased in 1980, we project that Hispanics would number 24 million in 2020. This is a substantial 9.4 million increase over the 14.6 million of 1980 which would be due solely to the natural increase (births minus deaths) stemming from Hispanics already in the U.S. in 1980, but far below what the totals would be with

Figure 5. Population 1980 and as Projected for 2000 and 2020: Hispanics, Total U.S. Population, and Four Main Racial/Ethnic Groups



Racial/ethnic group	1980 Number (millions)	1980 Percent of total	2000 Number (millions)	2000 Percent of total	2020 Number (millions)	2020 Percent of total
			Annual net immigration = 500,000			
Total U.S. population	226.5	100.0	267.4	100.1	291.5	100.0
White non-Hispanic	181.0	79.9	198.9	74.4	202.7	69.5
Black	26.5	11.7	35.2	13.1	41.7	14.3
Hispanic	14.6	6.4	23.8	8.9	32.4	11.1
Asian and other	4.4	2.0	9.5	3.6	14.7	5.0
			Annual net immigration = 1 million			
Total U.S. population			279.1	100.0	316.9	100.0
White non-Hispanic			200.3	71.7	205.6	64.9
Black			36.4	13.0	44.4	14.0
Hispanic			30.3	10.8	46.6	14.7
Asian and other			12.1	4.3	20.3	6.4

Source: Leon F. Bouvier and Cary B. Davis, *The Future Racial Composition of the United States* (Washington, D.C.: Demographic Informatioin Services Center of the Population Reference Bureau, 1982).

the addition of immigrants arriving after 1980 and their subsequent natural increase.

How likely are these projections to materialize? Potential fluctuations in immigration (as well as fertility) make this impossible to tell. Although net immigration of Puerto Ricans dwindled to a trickle in the 1970s, their immigration remains unrestricted and could surge upward again if the island's economy deteriorates and prospects in the U.S. improve. Refugee influxes from Cuba depend on the vagaries of Cuban—and U.S.—policy. While immigration from Mexico and other Spanish-speaking countries of Latin America does fall under the control of U.S. immigration law, the open-ended family reunification clause currently allows for more arrivals than the 20,000 per-country annual limit. This will change if the Simpson-Mazzoli bill passes into law in the form approved by the Senate, but there remains the murky question of illegal immigration.

The ethnic mix of the Hispanic population should remain relatively stable for the remainder of this century, although Hispanics from countries other than Mexico, Cuba, and Puerto Rico may increase their share of the population somewhat. Here, too, the big unknowns are unregulated immigration from Puerto Rico and illegal immigration, as well as changes in U.S. immigration law.

Whatever their future numbers, Hispanics are already a growing force in American society. There are now nine Hispanic Congressmen* (though no Senators), one state governor (Toney Anaya of New Mexico), Hispanic mayors in Denver, Miami and San Antonio, and groups like the Southwest Voter Registration Project in San Antonio are working to get out more of the Hispanic vote. Only 30 percent of Hispanics of voting age cast ballots in the 1980 Presidential election, compared to the national figure of 59 percent—down from 38 percent in 1972. Hispanics' political and social influence is marshaled by such organizations as the Mexican-Americn Legal Defense and Educational Fund (MALDEF), the National Council of La Raza, and the League of United Latin American Citizens. There are 13 TV stations and 118 radio stations broadcasting full time in Spanish and another 100 or more scheduling ten or more hours a week in Spanish. And U.S. business has discovered the Hispanic market; J. Walter Thompson and other leading advertising agencies now have Hispanic units; Safeway, Jewel and other supermarket chains stock Hispanic culinary specialties; and Mattel markets a Hispanic version of the Barbie doll.

Many questions about the impact of the growing Hispanic population will only be answered with the passage of time. Will Hispanics assimilate into the U.S. "melting pot" as other immigrant ethnic groups have before them? How much of their identity as a group will they wish to maintain? Whatever the outcome, their arrival has changed the face of America once again. □

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*The nine Congressmen are: Robert Garcia (D-New York), Kika de la Garza (D-Texas), Henry Gonzales (D-Texas), Manual Lujan, Jr. (R-New Mexico), Matthew Martinez (D-California), Solomon Ortiz (D-Texas), Bill Richardson (D-New Mexico), Edward Roybal (D-California), Estaban Torres (D-California).

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